

Department of the Army  
Headquarters, United States Army  
Training and Doctrine Command  
Fort Monroe, Virginia 23651-5000

17 September 1990

DTIC  
ELECTE  
AUG 17 1992  
S A D

\*TRADOC Pam 351-13

1

## Training

# SYSTEMS APPROACH TO TRAINING - ANALYSIS

**Summary.** This pamphlet provides a guide to the structure and content of the analysis process in support of a Systems Approach to Training (SAT).

**Applicability.** This pamphlet applies to HQ TRADOC staff elements, integrating centers, colleges, service schools, training centers, and all other elements of TRADOC responsible for training.

**Suggested improvements.** Send comments and suggested improvements on DA Form 2028 (Recommended changes to Publications and Blank Forms) through channels to Commander, TRADOC, ATTN: ATTG-C, Fort Monroe, VA 23651-5000.

## Contents

Paragraph Page	Paragraph Page
<b>Chapter1</b>	<b>Chapter4</b>
<b>Introduction</b>	<b>JobAnalysis.</b>
Purpose . . . . . 1-1	General . . . . . 4-1
References . . . . . 1-2	Requirement . . . . . 4-2
Explanation of abbreviations and terms . . 1-3	Job familiarization . . . . . 4-3
Background . . . . . 1-4	Individual task identifier . . . . . 4-4
Management . . . . . 1-5	Collect job performance data . . . . . 4-5
Analysis team . . . . . 1-6	Individual critical task selection . . . . . 4-6
Automation . . . . . 1-7	Task propensity . . . . . 4-7
<b>Chapter2</b>	Task identifiers . . . . . 4-8
<b>MissionAnalysis</b>	Assign BOS and primary function . . . . . 4-9
General . . . . . 2-1	Job analysis summation . . . . . 4-10
Requirement . . . . . 2-3	<b>Chapter5</b>
Unit familiarization . . . . . 2-4	<b>IndividualTaskAnalysis</b>
Mission identification . . . . . 2-5	General . . . . . 5-1
Collective task identification . . . . . 2-6	Requirement . . . . . 5-2
Collective critical task selection . . . . . 2-7	Task analysis process . . . . . 5-3
Task propensity . . . . . 2-7	Review task analysis . . . . . 5-4
Task identifiers . . . . . 2-8	Revisions of the task analysis . . . . . 5-5
Assign BOS and primary	Task training site selection . . . . . 5-6
function . . . . . 2-9	Task analysis summation . . . . . 5-7
Mission analysis summation . . . . . 2-10	<b>Appendixes</b>
<b>Chapter3</b>	A. Project Management Plan . . . . .
<b>CollectiveTaskAnalysis</b>	B. Informational Sources . . . . .
General . . . . . 3-1	C. Verb List . . . . .
Requirement . . . . . 3-2	D. Blueprint of the Battlefield/Activity
Task analysis process . . . . . 3-3	Techniques . . . . .
Review task analysis . . . . . 3-4	E. Task Management . . . . .
Revisions of the task analysis . . . . . 3-5	F. Task Selection Models . . . . .
Determine drill candidate . . . . . 3-6	G. Task Selection Board . . . . .
Determine tasks for Mission	H. Drill Selection Flow Chart . . . . .
Training Plan (MTP) . . . . . 3-7	<b>Glossary.</b>
Hand-off to individual analysis . . . . . 3-8	

This document has been approved  
for public release and sale; its  
distribution is unlimited.

\*This pamphlet supersedes TRADOC Pam 351-4 (Test), 10 August 1979; TRADOC Pam 351-6, 10 October 1980; Phase 1 of TRADOC Pam 350-30, 1 August 1975; and TRADOC Pam 310-8, 25 September 1981. It rescinds TRADOC Form 550, November 1982.

408082 54 pgs  
92-20488



## Chapter 1

### Introduction

1-1. **Purpose.** This how-to pamphlet provides guidance for conducting the analyses, to include specific procedures and examples for reference. This pamphlet applies to analysis efforts conducted by TRADOC schools and other elements to support the mission, job and task analysis within SAT. Needs assessment and needs analysis are not covered in this pamphlet. How all analyses fit into the overall training development process is shown at Figure 1-1. (The analyses addressed in this pamphlet are highlighted in fig 1-1.)

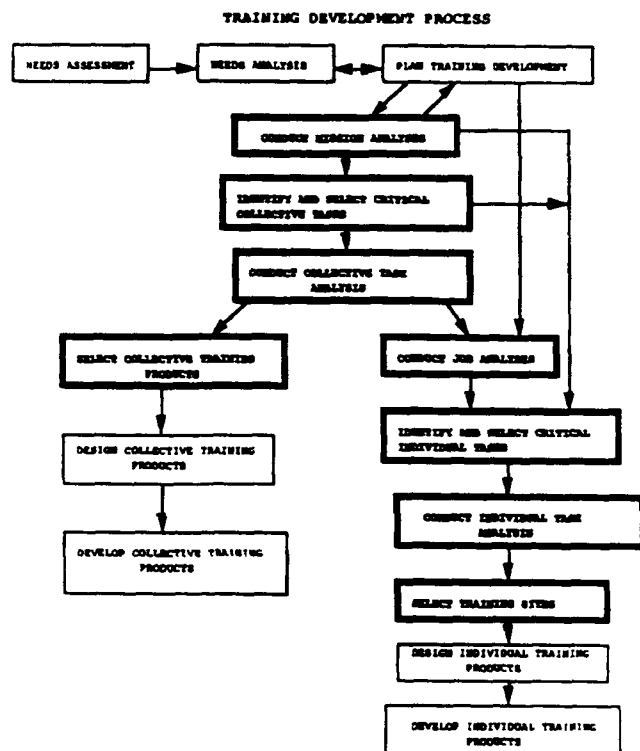


Figure 1-1. Training Development Process

#### 1-2. References.

##### a. Required publications

- (1) TRADOC Reg 350-7 (A Systems Approach to Training).
- (2) TRADOC Pam 11-9 (Blueprint of the Battlefield).
- (3) TRADOC Pam 25-33 (Army Training Glossary).

##### b. Related publications.

- (1) TRADOC Reg 310-2 (Design, Development, Preparation, and Management of ARTEP Documents (Mission Training plans (MTPs) and Drill Books).
- (2) TRADOC Reg 351-11 (Soldier Training Publications (STP) Policy and Procedures).

(3) TRADOC Reg 351-12 (Military Qualification Standards System Products, Policy, and Procedures).

(4) AR 611-3 (Army Occupational Survey Program (AOSP)).

(5) FM 101-5-1 (Operational Terms and Symbols).

1-3. **Explanation of abbreviations and terms.** The glossary contains abbreviations used in this pamphlet. Terms will be defined in the body of the pamphlet as they are used. See also TRADOC Pamphlet 25-33.

1-4. **Background.** A comprehensive analysis makes certain that the critical performance requirements of the Army establish the content of training. Whether you are a training developer doing analysis, an instructor, an operation research analyst, a combat developer, or a subject matter expert (SME), you could be involved in the research, data collection, and decision making required by analysis. For the purpose of this pamphlet, unless otherwise indicated, "training developer" is an individual doing analysis. Analysis occurs throughout the life of training. It does not end after trained soldiers are produced. Evaluation and change will both drive the analysis.

a. The quality of training is monitored primarily through external evaluation. The analysis, design, development, and implementation processes are monitored primarily through internal evaluation. Deficiencies noted during an evaluation may indicate a need to relook the analysis.

b. The threat, doctrine, equipment, unit or military occupational specialty (MOS) structure, or training technology may change and thus affect training. Analysis is not only the foundation for a good training program but also an important input source for other major Army management systems. Changes often occur in key Army management systems. These Army systems establish many of the early analysis efforts and suspenses. Key systems are—

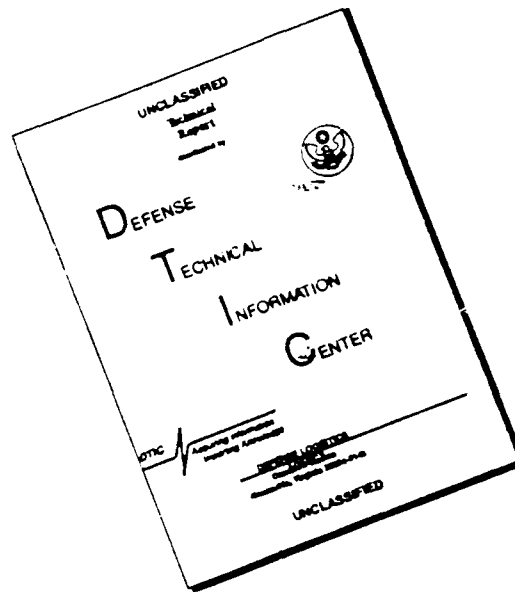
- (1) Concept Based Requirements System (CBRS).
- (2) Life Cycle Systems Management Model (LCSMM).
- (3) Planning, Programming, Budgeting, and Execution System (PPBES).

c. TRADOC Reg 350-7 requires all Army trainers to apply an SAT process to make training decisions. SAT uses the same basic principles involved in other military decision making processes. For example, it can be compared to the military staff study or estimate of the situation. The same logical thought processes in planning and conducting military operations applies to the development of training and of training support for new and existing training requirements. Perform analysis in the context of a total systems approach. The data collected during the analysis process forms the foundation for all training development including design, development, implementation, and evaluation of training.

#### 1-5. Management.

a. A complete training development plan covering all aspects of the training developer's involvement is

# DISCLAIMER NOTICE



THIS DOCUMENT IS BEST  
QUALITY AVAILABLE. THE COPY  
FURNISHED TO DTIC CONTAINED  
A SIGNIFICANT NUMBER OF  
PAGES WHICH DO NOT  
REPRODUCE LEGIBLY.

prepared early in the SAT process. Training developers also develop a project management plan and maintain a detailed audit trail to cover a specific project. See appendix A for the type of information included in a project management plan.

b. The audit trail is the set of key documents in the analysis process because it documents the process and the decisions made during the process. There is no requirement to have analyses formatted in a particular way. It is essential that the audit trail reflects the rationale for training development decisions. You should also document in the audit trail if resource or some other constraint(s) hinders the complete implementation of the analysis process. Include not only a description of the constraint(s) but a description of any "short-cuts" taken to overcome the constraint(s). This audit trail ensures the availability of information for the training developers during the design and development processes.

c. Analysis is a dynamic process, and the job of maintaining the total task inventory is a continuing one. In addition to the periodic updates, perform a total review of the mission, job, and task analyses every 3 to 5 years.

d. Analysis can be a resource-intensive process, but if you maximize your effort on obtaining the most efficient or optimum use of the processes described in this pamphlet, analysis is obtainable even with serious resource constraints.

e. Each school is encouraged to develop a local standing operating procedure (SOP) for the training developers by following the processes described in this pamphlet, but with examples specific to their school. Training developers in their application of the processes described in this pamphlet should focus on outcomes (analysis products) and not on a "by-the-book process" used to achieve the outcomes.

1-6. **Analysis team.** Analysis is a team effort guided by the training developer and requires objective input from SMEs, instructors, task performers and their supervisors. The combination of team expertise assures compliance with training development policy, technical accuracy, and quality control. It is important that team members maintain close association with combat developers and other SMEs both to obtain the benefit of their knowledge of what is happening in the field and to use them to review analysis products.

a. Combat developers take the lead in the Branch Planning Analysis with the training developers providing their input as a supporting element.

b. Training developers should lead the effort in the SAT analysis as their primary responsibility. Training developers are responsible for ensuring the analysis is thorough, complies with TRADOC training development guidance and policy, is technically correct, and applies quality control measures. This usually means involvement of educational specialists, training specialists, and SMEs.

c. When organizing for any major analysis, assign team members by name to solidify the working and support relationships. This assignment does not have to be full time, nor is it always practical to be co-located; however, the obvious advantage of a full-time assignment is the earlier completion of the analysis. In addition, there

is a greater probability of producing more in-depth results if management of the analysis process is centralized and if the chain of command places a high priority on the analysis and provides full support for the project by releasing individuals to take part in the team analysis effort.

1-7. **Automation.** As part of the TRADOC Integrated Systems, CG, TRADOC, is automating the complete training development process, using MS-DOS computers networked to the schools' mainframe computers. This effort involves creating user friendly data bases covering all phases of the SAT process culminating in the production of such products as soldier training publications (STP), Army Training and Evaluation Program (ARTEP) publications, course designs, and training support packages (TSP). This is not an easy job and will take time. Meanwhile school commandants are encouraged to automate portions of this process. Coordinate automated efforts with the U.S. Army Training Support Center, Training Information Systems Management Office, at AUTOVON 927-4881 or 4882 to ensure standardized data elements and files.

## Chapter 2

### Mission Analysis

2-1. **General.** Mission analysis is the process of examining a specific table of organization and equipment (TOE) unit and identifying all the missions and collective tasks performed by the unit personnel. For the purpose of this pamphlet, the term TOE is used although the process is applicable to the analysis of units organized under a table of distribution and allowance (TDA) structure. The major components of mission analysis are shown in figure 2-1.

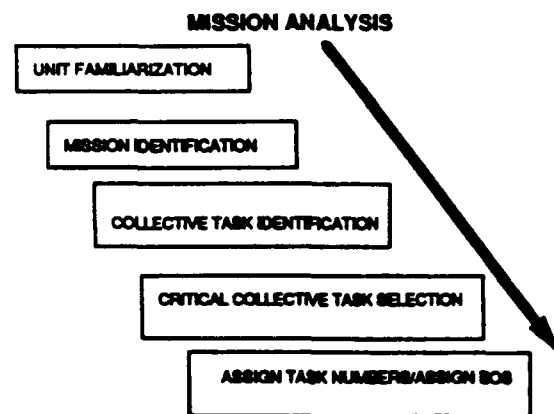


Figure 2-1. Mission Analysis

#### 2-2. Requirement.

a. Mission analysis is conducted on new and existing Active and Reserve Component (RC) TOE units.

(1) Conduct analysis whenever one or more of the following indicate that major changes have occurred in

Statement A per telecon Frances Doyle  
TRADOC/ATBO-NT  
Fort Monroe, VA 23651-5000

NWW 8/14/92

A-1

the structure or content of the tasks required of a particular unit.

- (a) The creation of a new type unit.
- (b) Significant changes in the operational concept and employment doctrine of a unit.
- (c) Substantial changes in the mission or capabilities of an existing unit.
- (d) Other sources of data.

(2) Reasons to review and update a mission analysis are—

- (a) Changes in threat.
- (b) Changes in weapon systems or other military hardware.
- (c) Changes in the personnel or equipment requirements within an existing TOE unit.
- (d) The publication of a new field manual, and the requirement to produce a new training material.

b. Cost constraints prohibit performing a mission analysis on each individual TOE unit; therefore, mission analysis is conducted on a representative unit.

c. The training developer should carefully review the materials available, determine the deficiencies, and develop a plan specifically designed to meet that requirement.

**2-3. Unit familiarization.** The purpose of this phase is to conduct a detailed search of all resources. By carefully collecting material and data that guide, direct, or explain the activities of the unit, the training developer can synthesize the information to determine the critical missions and tasks of the unit. Figure 2-2 shows the major products resulting from unit familiarization.



Figure 2-2. Unit Familiarization Products

a. **Informational sources.** Collect and review all sources of information that guide, direct, or explain the activities of the unit in performing its mission. Maintain a list of the information sources that are used to analyze the unit in the audit trail. Although the training developer initiates the list in the unit familiarization phase, references are added throughout the analysis. It will assist other users if notes are made next to each source on the list as to the type of information the source provided and whether it was useful in the analysis. See appendix B for a list of sources where the training developer may obtain specific types of information needed during the analysis.

b. **TOE structure diagram.** The TOE reveals how the unit is laid out and the specific vehicles, equipment, and

personnel within each echelon. The TOE narrative, which justifies the personnel and equipment listed in the TOE, will assist in unit familiarization. Although units may be organized differently from the TOE on the battlefield, the TOE serves as a baseline organization for analytical purposes.

(1) Although not required, it is easier to see the chain of command relationships between the major TOE echelons if you graphically show the chain of command relationships with structure diagrams. The diagram for each element should show next-lower echelons that fall within the element's command.

(2) The unit's TOE will contain elements for which the school is not proponent; it is key to consider their relationship and activities that support your unit's missions during the analysis. Indicate the TOE number on each wiring diagram. Figure 2-3 shows a TOE structure diagram for part of a unit.

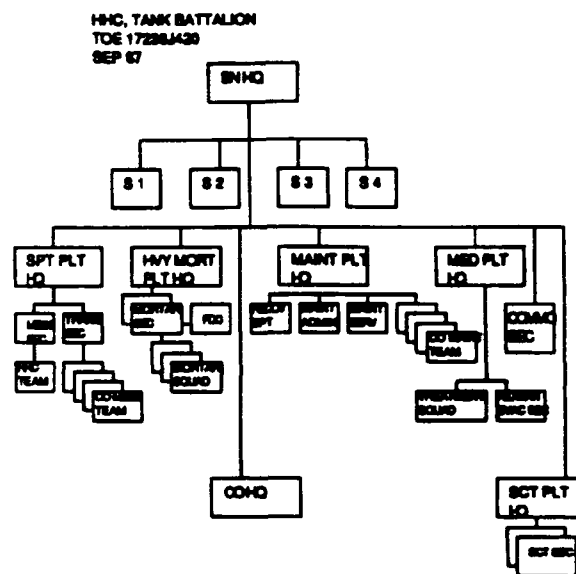


Figure 2-3. TOE Structure Diagram

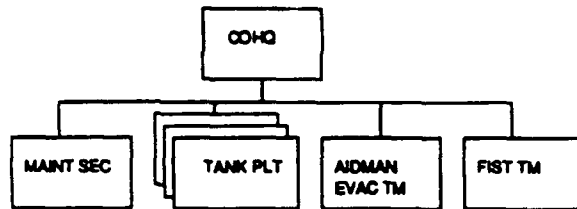
c. **Organizational diagrams.** The TOE provides the basic information on the echelons within a unit while the organizational diagram shows the typical battlefield organization for the unit and includes attached ad hoc echelons.

(1) This type of diagram is useful for task-organized units and units which normally have nonorganic units and elements attached or assigned to them in their combat environment. This diagram will be instrumental later when you are determining interface required between headquarters, adjacent units, and supporting units to accomplish the unit's missions and tasks.

(2) For combat support or combat service support units that normally support other units, it is important that their relationship to and support of these units be considered throughout the analysis process.

(3) The unit commander will determine how the unit will organize on the battlefield, but doctrinal manuals normally depict a typical battlefield organization that is used in analysis. Figure 2-4 shows one way of depicting an organizational diagram for a tank company. Figure 2-5 shows another aspect of the organizational diagram, showing the interactive processes or functions that must be performed between elements. Any of these diagram formats or one of your own can be used.

Once the unit organization is depicted, the training developer can determine which echelons of the unit to analyze in-depth. Start with identifying the missions of the unit's highest echelon.



The maintenance section, aidman evacuation team and FIST team are the result of task organization rather than being a part of the tank company TOE.

Figure 2-4. Organizational Diagram

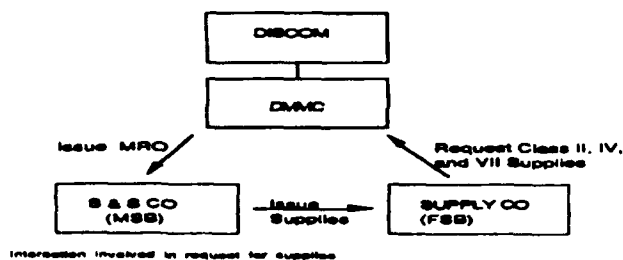


Figure 2-5. Organizational Interactions Diagram

**2-4. Mission Identification.** Mission is defined as a series of related tasks that comprise the major capabilities and requirements imposed on a unit by its parent organization. Mission analysis usually begins with the highest echelon in the TOE or the supported unit and identifies its missions. These missions are the basis for the analysis of the lower-echelon missions. In other words, the training developer should know the missions of the battalion before identifying the missions of its subordinate companies. Identify stated and implied missions for the unit during this step.

a. Use the TOE and doctrine to find the stated missions. Battalion and company-level unit TOEs typically provide the training developer with a concise mission statement and a list of unit capabilities. The Unit Reference Sheet (URS) or Automated Unit Reference Sheet (AURS) provides similar information on proposed units which have not yet been approved.

b. Implied missions are those missions not stated in the TOE or doctrine, but are normally performed by the unit. An example of an implied mission is "Conduct a Passage of Lines." Although "Conduct Passage of Lines" is not defined as a mission in most units' doctrine, the related collective tasks that comprise "Conduct a Passage of Lines" must be performed as part of many units' normal battlefield activities.

c. Describe the missions in a standard format. The wording of the statement consists of an action verb, an object, and a possible qualifier.

(1) Action verb—"Conduct...." An action verb is that portion of a mission statement that denotes a physical or mental process performed by a unit. See appendix C for a standard verb list.

(2) Object—"...a Passage of Lines." An object is that portion of a mission statement that denotes the object toward or upon which an action is performed.

(3) Qualifier. A qualifier is that portion of a mission statement that describes the intended action in greater detail than expressed by the action verb and object alone.

d. When the training developers complete the mission identification, they generate a great deal of information about the unit's missions and capabilities at each echelon. This information may provide a basis for recommending changes to the unit's mission statements and capabilities. Forward recommended changes to both the combat developers and doctrine writers.

e. Select analysis methods. Select a combination of the following analysis methods to identify missions, and compile a draft mission list. These same methods are used throughout analysis to identify collective and individual tasks. Use more than one method since each method has strengths and weaknesses.

(1) Content analysis. Content analysis is a review of the literature. The references compiled in the Unit Familiarization Phase provide an excellent start point for mission identification. The most valuable information sources for this mission analysis are doctrinal manuals (coordinating drafts or later editions), which contain stated and implied missions. Operational and organizational (O&O) plans and TOEs typically provide additional information about an organization's stated missions, especially if dealing with a new unit for which doctrine is under development.

(2) Interview analysis. Interview personnel currently serving in (or having recently served in) key unit positions. Conduct this interview face-to-face and/or through a survey. The cost of conducting a large-scale survey, especially in terms of preparation and administration time, is resource intensive.

(a) Although on site interviews are the preferred method, interview analysis is typically conducted using local assets due to budget and time constraints.

(b) The training developer must review the literature and become familiar with the functional

relationships to properly structure the questions to be asked in either interviews or questionnaires.

(c) Test out the interview structure and questionnaires on small groups to ensure that respondents hear and read what you intend. The military personnel returning to the school from field units for advanced training provide an excellent resource for interview analysis.

(d) Precise task titles are not initially important during interviews. It is more important that personnel interviewed provide as much experience-based information as possible.

(e) An additional source of information is the results of the Comprehensive Occupational Data Analysis Programs (CODAP) reports provided by the U.S. Army Personnel Integrating Command (USAPIC) as part of the Army Occupational Survey Program (ASOP). For mission analysis, use the AOSP studies dealing with occupational identifiers specific to a weapon system in the unit being analyzed.

(3) Observation analysis. Direct observation of units accomplishing their missions provides potentially the most useful source of mission analysis information.

(a) The training developer must have a thorough understanding of the literature and functional

relationships within the unit to correctly interpret and describe the behaviors observed.

(b) This method requires a high investment of time and money to observe numerous units performing under conditions that combat missions are performed (e.g., a live-fire battlefield). Collective training exercises conducted in the field, on simulators, or during a wargaming exercise can be observed; however, do not base an analysis solely on training exercises.

f. Develop mission matrices. Once the missions of the highest echelon or supported unit are identified, analyze those missions to derive missions for echelons at the next lower level. One method for doing this is to display the relationship between the missions performed at different echelons using matrices or diagrams as in figure 2-6.

(1) The purpose of the matrices is to identify what missions next-lower echelons are performing during each of the higher echelon's missions. For example, if the armored cavalry regiment (ACR) squadron is performing the mission ("Conduct a Hasty Attack"), the matrix would show what missions the next-lower echelons (the troop, tank company, headquarters and headquarters troop, and howitzer battery) may be performing to support the squadron's attack. (One word is sufficient to describe the mission when depicting it in a diagram.) Figure 2-7 is an excerpt from a squadron mission matrix.

#### SQUADRON MISSION MATRIX

SQDN	TRP	TANK CO	HHT	HOW BTRY
Defend BP	Defend BP Screen	Defend BP Hasty Attack	Provide CSS Provide C&C	Provide Fire Support
Raid	Hasty Attack Area Recon Screen Route Recon MTC Zone Recon	Hasty Attack	Provide C&C Provide CSS	Provide Fire Support
Breakout from Encirclement	Hasty Attack MTC Defend BP Screen Delay	Hasty Attack Defend BP	Provide CSS Provide C&C	Provide Fire Support
Battle Handover/ Passage of lines	BHO/Passage Defend BP Screen Tactical RM Hasty Attack	BHO/Passage Defend BP Tactical RM Hasty Attack	Provide CSS Provide C&C Tactical RM BHO/Passage	Provide Fire Support Tactical RM BHO/Passage

Figure 2-6. Mission Matrix

SQDN	TRP	TANK CO	HHT	HOW BTRY
Hasty Attack	Hasty Attack Zone Recon Route Recon Screen	Hasty Attack	Prov C&C Prov C&C	Provide Fire Support

This matrix excerpt shows when the ACR squadron conducts a "Hasty Attack," the troops will perform one of the following four missions: "Conduct a Hasty Attack," "Conduct a Screen," "Conduct a Zone Reconnaissance," or "Conduct a Route Reconnaissance." The specific mission(s) performed by the Troops depends on the tactical situation and the squadron commander's intent.

Figure 2-7. Squadron Mission Matrix

(2) The training developer would repeat the process with each of the echelons. Figure 2-8 is an excerpt from the headquarters and headquarters troop (HHT) mission matrix.

(3) The steps for developing the mission matrices are—

(a) Determine the missions for the highest echelon. Determine what missions the next-lower echelons are performing to support each of the missions of the higher echelon.

(b) Select one of those echelons that your school is proponent for or that is a key element for your unit, and analyze the missions to derive the missions for its next-lower echelons.

(c) Repeat the process, in top-down fashion, until matrices have been developed for all company-level and higher echelons. Matrices are not developed below platoon level.

g. Record potential tasks. It is likely, as the training developers identify missions and develop the mission diagrams, that they will also identify actions that could later become collective or individual tasks. It is important to go ahead and record the information about these potential tasks until a determination as to its status is made. The type of information needed for the potential tasks is discussed in the section on identifying tasks. Local SOP may dictate the method for recording tasks. The important thing is that the training developers capture all potential tasks for future consideration.

h. Develop final mission list/matrices. As the training developers finalize the missions for the unit, they should check them against the following:

(1) Use as a basis the missions of the next higher echelon. If the mission does not support the missions of the next higher echelon or supported unit, delete the mission.

(2) Review each mission to ensure that it accurately reflects what you have learned about the unit in terms of its organization, equipment, and operational environment.

(3) Review each mission to ensure that it is complete in itself.

(4) Review all the mission statements to ensure that they contain a verb, an object, and when necessary a qualifier. Review the standard verb list (appendix C) to determine if the verb agrees with the definition.

i. Staff mission list/matrices. The last step in the mission identification phase is to staff the missions list/matrices. Staffing should involve the following: personnel currently serving in (or having recently served in) key unit positions, doctrine writers, and combat developers. It is helpful to describe each echelon's missions. Mission titles like "Conduct a Zone Reconnaissance" may have slightly different meanings to different people, and this may result in feedback discrepancies during staffing. Similar mission titles at different echelons represent different behaviors. Express this description in terms of candidate collective tasks that reflect the content and scope of the mission.

j. Format mission list/matrices. Once the mission matrix has been approved, the users can format the information in a number of ways, dependent on their needs. The most popular reporting format is the mission by echelon listing. This is a listing of all the missions performed by one echelon.

k. Coordinate nonproponent missions. If you have identified missions or proposed tasks for nonproponent echelons within the unit, send the data to the proponent agency to check for accuracy. Detailed coordination between schools is critical to ensure standardization in the analysis process.

2-5. Collective task identification. Analyze the missions performed by each echelon to determine the collective tasks required for mission accomplishment. In the mission identification phase, some collective tasks were used to "define" the missions performed by each echelon. These collective task lists provide an excellent start point for the task identification phase. Refine and expand these task lists using the same analytical methods (content, interview, and observation) described in paragraph 2-4e.

a. Task inventory development. Initially the training developer is not overly concerned about recording proper task titles. Titles are refined after all the tasks have been identified. A task is defined as a collective task if it—

HHT	TOC	S4 SEC	MAINT PLT
Prov C&C	Prov C&C	Prov Log Spt	
Prov C&S	Prov C&C	Prov Log Spt	
			Prov Recovery
			Repair/Service
			Parts
Move	Occupy TOC		
	Site		
	Move TOC		

Figure 2-8. HHT Mission Matrix



- (1) Requires group participation for completion.
- (2) Has identifiable start and end points.
- (3) Results in a measurable, observable product or accomplishment.

(4) Requires simultaneous performance of task steps in different locations or contains such a large number of skills that one person cannot perform it in a timely or effective manner. You should be careful not to allow subjectivity to affect a decision concerning timeliness and/or effectiveness.

Expect to go through several reviews, refining, and modifying the list before coming up with a final task list.

b. Preliminary task information. The training developer should keep the following information about each collective task as he/she develops the inventory:

- (1) Specific source from which the task came.
- (2) TOE/unit designation.
- (3) Temporary task number.
- (4) Mission(s) task is performed in.
- (5) Initial task title.
- (6) Echelon(s) that perform the task.
- (7) Duty position(s) (if an individual task) that performs the task.
- (8) Description of start and stop points of the task.

c. Task title development. Describe tasks in a standard format called a task title on the final task inventory. Preparing the task title in a standard format ensures that the intended action is clearly described the action is specific and measurable. The wording of the task title consists of the same components as the mission statement. For example, "Recover (action verb) a Vehicle (object) by Similar Vehicle (qualifier)." See appendix C for the standard verb list.

d. Techniques for identifying collective tasks. Identifying all the collective tasks for the mission is easier if you apply a systematic technique when using one of the analysis methods discussed earlier (para 2-4e). Two techniques are described below. Use whichever technique suits your needs or develop your own way of organizing your thoughts. As you apply a technique, remember to consider the actions of interacting units during the mission you are analyzing and what impact they might have on the tasks being performed by the echelon with which you are dealing.

(1) Blueprint of the Battlefield technique. The key source to review is TRADOC Pam 11-9. It serves as a common reference system to analyze and integrate the tactical actions that the Army performs in combat.

(a) The Blueprint consists of numerically indexed functions and generic tasks, with each element defined and arranged hierarchically according to seven battlefield operating systems (BOSs).

(b) The seven BOSs are Maneuver, Fire Support, Air Defense, Command and Control (C2),

Intelligence, Mobility and Survivability, and Combat Service Support (CSS). Despite the use of familiar branch-oriented terminology describing the seven BOSs, each BOS includes functions performed by many segments of the force.

(c) The accomplishment of almost any mission will require the interaction of several if not all of the BOSs regardless of the echelon or type of unit. For example, all segments of a force must perform many of the functions listed in the C2 BOS. Review each mission and echelon against each of the primary functions, subfunctions, and generic tasks listed in the BOSs when using the Blueprint of the Battlefield to help identify collective tasks. The question to repeatedly ask is, "Is the echelon required to do anything related to this primary function, subfunction, and generic task within the BOS to support the accomplishment of the mission being analyzed?"

(d) The use of the term "generic task" in the Blueprint should not be confused with the units of work that training developers will identify as tasks using the criteria above. TRADOC Pam 11-9 gives a complete explanation of the structure of the Blueprint.

(e) It is very likely that training developers will identify some individual tasks, especially at the leader level, as they go through the BOS. Be sure to pass information on potential individual tasks to the training developer responsible for individual analysis. See appendix D for example of how the Blueprint of the Battlefield was used to identify tasks.

(2) Phase/mission activity technique. Another technique that allows the training developers to organize their thoughts when identifying the collective tasks is to divide the mission into phases or mission activities and deal with each separately. Examples of phases are planning, preparation, execution, and reconstitution. Examples of mission activities are receipt of warning order, stand to, resupply, and movement. Use of this technique will give you information on the frequency of task performance. If a task occurs in several phases/mission activities over a number of missions, it is reasonable to expect that task is an important one to train. You can combine the phase/mission activity technique with the Blueprint technique. See appendix D for an example of how the mission activity technique was used.

e. Identify tasks for lower echelons. Training developers must also identify collective tasks for echelons not included in the mission matrices, such as section and crew. These echelons do not perform missions, but they perform collective tasks as part of their parent echelon's mission(s).

f. Refine task assignment to an echelon. When identifying collective tasks, it is often difficult to determine at what echelon(s) a task is performed, especially at lower levels. For example, if more than one platoon is needed to perform one collective task, would that task be identified as a platoon-level task or a company-level one? In this case, it would be identified as a company task because one platoon could not accomplish the task and there are no other echelons between platoon and com-

pany. As a general rule, when two or more same-level echelons are required to perform a task, the task is identified at the next-higher echelon. This rule must be flexible since the amount of interaction between echelons varies with each task. However, training developers must be consistent in their interpretation and application of the rule.

g. List candidate task steps. Like mission statements, task titles alone are not explicit. Therefore, the training developer may want to list candidate task steps for each task on the task list. For example, the platoon collective task "Establish Perimeter Security" may or may not include the setting up of observation posts. However, the training developer can clarify that point by listing "Scout sections establish observation posts," as a task step of "Establish Perimeter Security." When listing candidate task steps for a collective task, identify who performs those steps (if it is not the echelon as a whole). The task step may be performed by a lower echelon or individual. In some cases the step may actually be another collective task. For example, "Establish an Observation Post" is a collective task for the scout section but also a task step of the platoon-level task "Establish Perimeter Security."

h. Refine task list. The training developers must review the mission-by-echelon collective task lists after they have been developed to ensure that where the same task appears in more than one echelon it is stated in the same manner and to identify repetition. If a collective task appears in every mission for a given echelon, you can group it in a "recurring/sustaining" category for that echelon to avoid having to repeat the task in every mission list. The term "recurring/sustaining" means that either the task can occur at any time or the task must be performed to sustain the unit. "Defend Against an Air Attack" is a recurring task for all echelons. "Conduct Resupply Activities" is a task the platoon must perform to sustain its operations.

i. Procedures for identifying tasks. The steps to identify collective tasks are summarized in figure 2-9.

#### COLLECTIVE TASK IDENTIFICATION

1. Select the echelon and mission.
2. Select a method or combination of methods to analyze the mission to determine the tasks required for mission accomplishment.
3. Review the collective task lists of similar missions prepared for other like units, if they exist.
4. Determine the start and stop points for the task. This will help you determine the next possible task candidate.
5. Record the task title as a proposed task.
6. Record the remaining tasks for this mission following the preceding steps.
7. Analyze the remaining missions for that echelon and perform the steps previously described.
8. Review all tasks for each mission to ensure that no task gaps exist within the mission or between missions. For example, if an "obstacle plan" is developed for one

particular mission, ensure that any other mission that needs an obstacle plan has that task listed for it.

9. Record the final task title and review the approved verb list (appendix C) to determine if the usage of the verb agrees with the definition.

10. Next you need to staff the task inventory. The collective task by mission-by-echelon lists are staffed through the following: Personnel currently serving in (or having recently served in (or having recently served in) key unit positions, doctrine writers, and combat developers. As with staffing missions, task inventory staffing is usually conducted using local assets.

#### Figure 2-9. Identify Collective Tasks—continued

j. Coordinate nonproponent tasks. When identifying tasks, review related collective task list for nonproponent tasks. Send the nonproponent collective tasks performed by echelons within your proponent organizations to the proponent agency to check for accuracy. When the proponent agency provides existing analysis material for the given echelon, you must review that material for integration into your analysis. Detailed coordination among schools is critical to ensure standardization in the analysis process. If the material is insufficient or represents a different focus from what you need, send the task(s) to the proponent with a brief explanation of why the existing material does not suffice and request changes. If proponent problems arise, notify the integrating centers as soon as possible. Appendix E details the coordination of common tasks.

2-6. Collective critical task selection. The last step of the mission analysis phase is to select critical collective tasks that are essential to the accomplishment of each mission and should be trained. The careful selection of those collective tasks which require structured training is an important part of managing the resources available for development of training.

a. Select task selection criteria. Selecting tasks for training is a judgmental process which requires using criteria as a guide. Several critical task selection procedures are available for use by the team performing the analysis. The information available about the tasks and the time available are important factors to consider in choosing the model. Appendix F discusses various models that have been proven useful in selecting tasks for training.

(1) During the task selection process, keep in mind that you are not trying to match or remember the tasks that have always appeared in training products, rather you are trying to decide which of the tasks on the list are of enough importance to justify training.

(2) Given the current state of resources, the training developer would not recommend training a task that—

- (a) Was not critical to the unit or job.
- (b) Was not difficult to learn.
- (c) Was performed by only a small percentage of jobholders.

Figure 2-9. Identify Collective Tasks

(d) Was rarely performed at all.

(e) Produces no significant undesirable effects if there is inadequate performance of the task.

Such tasks should be considered poor candidates for selection for training. Tasks performed frequently by a large portion of jobholders would be given more consideration for training because of the possible payoff of improved performance through training.

(3) The attempt is to delete the tasks that clearly would waste training resources and leave only those that require training. After determining the task selection criteria to use, examine the tasks against criteria and provide the task selection boards as much information as possible.

(4) Base the recommendations to the task selection board on the data gathered on the total task inventory. These recommendations must include whether the task should or should not be trained according to the criteria used. It may require some preliminary analysis to clarify and distinguish the tasks for the board's benefit. List only enough task steps to provide the potential board member with a minimum essential definition of the task.

b. Form task selection board. The particulars concerning the personnel involved in the task selection board are found in appendix G.

c. Conduct task selection process.

(1) Prior to the review of the task inventory by the board, the team performing the analysis should prepare an advance packet for each member of the board. The advance packet should contain—

(a) List of the evaluation criteria used based on the model selected.

(b) Results of how the tasks did or did not meet the criteria.

To speed task board operation, the tasks can be grouped according to how they meet or do not meet the criteria. For example, one group would be tasks that met all criteria, another would be tasks that met none of the criteria, and the third group would be tasks that met some of the criteria. This last group will normally constitute the largest work load for the board.

(2) Plan the meeting of the Critical Task Selection Board to operate as efficiently as possible. Usually the board members can quickly evaluate a majority of the tasks based on decisions prepared in advance by the analysis team. The majority of the board's time should be spent resolving those issues that divide the group on specific tasks. In cases of revision, the requirements of the Critical Task Selection Board may be accomplished via staff action memorandum. The final output of the board will be the recommended Critical Task List and a list of tasks not selected as critical. Forward these products to the approving authority designated by the school.

(3) Retain a detailed account of the board's proceedings as a part of the audit trail. Capture any

ideas related to training design and development mentioned during task selection for later consideration. Maintain the list of tasks not selected for training and the rationale for nonselection in the audit trail.

**2-7. Task propensity.** Once the Commandant of the school or other designated approving authority approves the critical collective task list, the team can complete the list of tasks for which the school is not doctrinal proponent. The school agency that has management responsibility for the analysis process will formally request task data from the doctrinal proponent. The proponent for the task doctrine is always responsible for task development regardless of which unit associated with other schools or agencies perform the task. Written permission from the doctrinal proponent is required for any TRADOC school or agency to perform analysis of any critical tasks that do not relate to one of its designated areas of propensity. Restricting analysis and development to the doctrinal proponent will ensure that doctrine and training originate from a single source, training is standardized, and training resources are conserved. See appendix E for more detail on how to handle common tasks.

**2-8. Task identifiers.** Task numbers for critical collective tasks will use the system required by TRADOC Reg 310-2 for training and evaluation outlines.

**2-9. Assign BOS and primary function.** Training developers must assign a BOS and primary function from TRADOC Pam 11-9 to each task on the critical task list. This tie to the Blueprint of the Battlefield will be used to assist TRADOC and the schools in justifying training funds in the future. To do this, review each task against the seven operating systems. Although a task may be applied to more than one BOS, assign only one BOS to the task. Select the one that appears most logical. After you have assigned a BOS category, review the primary functions in that BOS category and determine which one applies to the task. Two examples are the tasks "Conduct Hasty Decontamination" which is assigned to the Mobility and Survivability BOS category and Enhance Survivability primary function (6.3) and "Inspect Loading of Transport Equipment" assigned to the Combat Service Support BOS category and Distribute primary function (7.5).

**2-10. Mission analysis summation.** The mission analysis identifies all the tasks involved in performing a particular mission and culminates in the identification of the critical tasks for that mission. Training developers will then analyze each task on the critical task list.

## Chapter 3

### Collective Task Analysis

**3-1. General.** This analysis process identifies all the actions and decisions required to accomplish each critical collective task. The task analysis is the "core" of analysis. The basic task analysis process is the same for both collective and individual task analyses. It combines the information already derived about the task with detailed task performance specifications such as conditions, standards, references, safety and environment factors/hazards, task steps, skill/knowledge, and

performance measures. Training developers use the information produced to design and develop training and produce ARTEP products. The major components of collective task analysis are shown in figure 3-1.

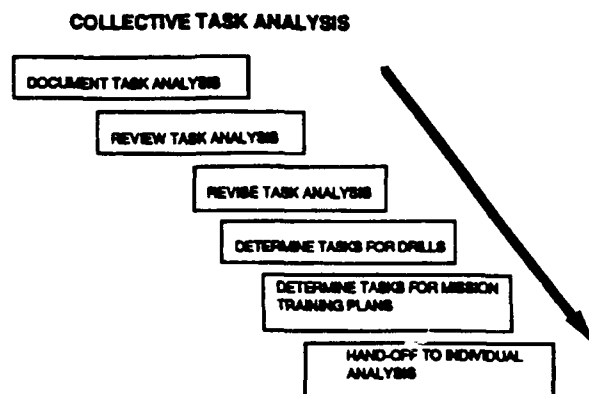


Figure 3-1. Collective Task Analysis

**3-2. Requirement.** Task analysis is done for all the critical tasks selected by the task selection board. The analysis team analyzes all the proponent tasks on the approved critical task list. The analysis of nonproponent tasks is coordinated with the appropriate proponent agency. Keep the task analysis current. Changes in threat, weapon systems or other military hardware, the personnel or equipment requirements within an existing TOE, or technical manuals (TM) or field manuals (FM) will require periodic corrections.

**3-3. Task analysis process.** The collective task analysis process identifies all the actions and decisions required to perform the collective task. The basic resource materials for collective task analysis are the documents generated during mission analysis and the supporting references that were gathered in the previous analysis steps. See appendix B for a list of sources where the training developer may obtain specific types of information needed during analysis. Take the following steps to analyze a task:

a. Choose a task to analyze. If a collective task is performed by one echelon only, then the task analysis is a relatively straight forward process. However, if one task is performed by different echelons, the training developers must determine how to best organize their task analysis data. The following steps will help determine whether one or more analyses is required for a task:

(1) If all identified echelons perform the given task in basically the same way, address minor differences in task performance by the echelons within the task steps.

(2) If the scope of the task differs greatly between echelons, the training developer may develop separate analyses for different echelons. For example, both the troop and the scout platoon can perform the collective task "Disengage from the Enemy." Yet, the troop task is decidedly more complex—and hence somewhat dif-

ferent—from the scout platoon task. Conducting separate analyses will preclude training developers who do the design and development from having to "dig" through the analysis to find data on a specific echelon.

b. Develop condition statement. The condition statement sets the stage for the performance of the task and controls the boundaries for the analysis of the task. Include all pertinent influences upon task performance such as orders or special tactical situations; performance, location; mission, enemy, terrain, troops, time (METT-T); environment, and climatic conditions. You will develop the task standard and task steps according to the parameters set by the condition statement. The condition statement consists of two related components: the cue or start point and descriptive information. For almost any collective task, the factors METT-T impact on the condition. In other words, for a unit to perform a task, it must be given a mission, an enemy situation (absent, suspected, present), terrain, troops (inorganic assets that are available), and a length of time to complete the task.

(1) Cue. All condition statements must describe what causes task performance. This starting point is an action or event taken by a unit or individual which creates the necessity for a task to be performed. This information aids the training developer doing the design to design learning activities that attempt to duplicate or simulate the work environment. The cue(s) may be an order, a tactical situation, or anything that causes the task to be performed. For example, a starting point for "Refuel Vehicles" would be low fuel levels. Prepare the cue in a standard sentence format; for example, "The company received a warning order from the battalion headquarters." Take the following steps to determine starting points:

(a) Review the organizational diagrams to determine what actions are being performed by outside units. These actions may be possible cues.

(b) Review the start point for the task which was determined during mission analysis. This may be the cue.

(c) Review the threat information and other sources previously stated.

(2) Descriptive information. This detailed description sets the stage for task performance and must be explicit because it determines the contents of the task's standard and the task's performance. Two pitfalls to avoid when writing condition statements are as follows: Writing statements which attempt to incorporate too many situations, and writing very general and obvious statements such as "The company is operational." Prepare the descriptive information in standard sentence format. The following steps will help determine the descriptive information for collective tasks:

(a) Review the organization diagrams, threat information, and other sources to produce this portion of the statement.

(b) Review the environmental factors. Unless otherwise specified, it is assumed that all tasks can be

performed in an electromagnetic environment, during day or night, on any terrain, and in any climatic conditions.

(c) Prepare specific and detailed situations for the statement. These situations should contain information about present and future situations. Future situations will create the need for possible task steps. An example is: "The enemy may employ nuclear or chemical weapons." Time can be rarely stated in finite terms, such as a set number of hours, because tactical situations are typically fluid. However, situation-dependent time conditions can be included, such as "OPORD specifies when the company/team must reach the release point."

(d) Review the condition statements of similar collective tasks under similar missions. If these are totally applicable, they can be used for your tasks. If not, use those portions that are applicable for your tasks.

(3) As you develop the condition statement, determine whether the task is expected to be performed in conditions requiring mission-oriented protective posture (MOPP) 4.

(4) Review the completed condition statement. Does this statement provide all the information and setting you need to develop the task steps?

c. Develop task steps. The development of task steps for a specific task is the process of identifying the particular components of the task. Task steps are the required unit actions, supporting collective tasks performed by subordinate echelons, or the individual tasks executed during the performance of a collective task. These task steps should be in the same order as would occur during wartime. The task steps identify specific tasks and functions performed by some or all of the unit members. Task steps focus upon process, procedure, and results. Each task step should be specific and detailed and contain only one event. The following process can be followed to develop task steps:

(1) Review the condition statement to maintain a clear understanding of the parameters of the task.

(2) Review the informational sources to determine how the task is performed. (Review the organizational diagrams to determine if coordination process between echelons is needed for this task.)

(3) Sequence all task steps as they should be performed during wartime.

(a) If the step is an existing collective or individual task, then the detailing should summarize the overall standard(s) for that existing task. For example, "Co/Tm commander plans the bypass" is a task step of the collective task "Bypass an Enemy Position." There is also a BC12-03 individual task called "Plan a Bypass Operation." Therefore, the overall standard for that existing BC12-03 task should provide the basis for the step appearing in the collective task analysis.

(b) Do not assume that a task on the current individual inventory and the step from the collective task are the same even though the titles are similar or

the same. Always check the task analysis for the individual task to ensure its content is what you need for the collective task before you reference the individual task by title and number. If there is a discrepancy, notify training developers doing individual analysis and explain why the current individual task was not appropriate.

(4) Determine who or what element of the unit performs each task step. The task step must begin with this information; for example, "The company commander supervises..." or "Class I Section performs..." If the entire unit is performing the task step, it is not necessary to indicate the performer.

(a) Maintain a list of any steps performed by an individual that appears to meet the criteria for an individual task. After you have completed the task analysis, compare the potential individual tasks with the current individual task inventory (if available) to see if the task currently exists.

(b) Potential individual tasks are handed off to training developers doing individual analysis to consider for possible inclusion on the individual total task inventory.

(5) For each task step, you need to annotate the skills (physical or mental) and knowledge (mental) components needed by individuals to enable task accomplishment. For example, "Company commander select the method of breaching" (a step) as part of "Conduct a Hasty Breach" (a task) indicates the unit leader must know the methods employed and the assets required to reduce different types of obstacles (knowledge). The skills and knowledge are tied to the step to which they apply.

(a) Identifying what mistakes an inexperienced performer usually makes is one way to help identify the required skills and knowledge.

(b) The identification of skills and knowledge is critical later for the training developer doing design because the sequencing of training relies heavily on prerequisite relationships.

(6) For each task step of tasks designated as being performed in MOPP 4, you must identify whether the step can be performed in MOPP 4. If the step can be performed in MOPP 4, then no special annotation is required. If there is a problem in the performance of the step due to MOPP 4, then annotate the problem and solution.

(7) For each task step, identify the reference from which the information came. This is especially important if more than one source is used or if the source was a SME rather than a document. Include only the publication's number and the referenced pages.

(8) Review each step to make certain it concerns only one activity. For example, "Company commander prepares a displacement plan and a defense plan," does not meet this criteria. Likewise, the step, "Commander develops and implements the defense plan," also fails the criteria.

(9) Review each procedural task step to make certain that the stated reference does specify a specific procedure for performing the activity.

(a) Procedural steps laid out in FMs or TMs do not have to be duplicated in the task analysis; however, it is easier to analyze the interrelationship among all the steps and skills/knowledge of a task if they are indicated in the task analysis.

(b) If you reference the steps, rather than list them, make sure the steps are complete in the manual. List any skills or knowledge and safety or environmental factors not indicated in the manual.

(10) Review the steps that require coordination to make certain that they state the reason for coordination and with whom it is made. Do not use "higher headquarters".

(11) Review the total list of task steps to make certain no performance gaps exist between the steps.

d. Identify job hazards/safety/environment factors. Determine if there are job hazards, and/or safety and environmental considerations involved in task performance.

(1) Review and analyze combat safety doctrine. The branch proponent safety office can assist in providing System Safety Risk Assessments (SSRA) for equipment, Safety and Health Assessments, Safety Assessment Reports (SAR), safety lessons learned, accident analysis, and other safety information.

(2) Unsafe acts on the battlefield are far more likely to result in injury and death than the same act in training. Accidents can result in mission failure without enemy action. An example of this is the problems with the helicopters during the Iran hostage rescue attempt.

(3) Summarize if there is a hazard potential to personnel, equipment, and/or environment when this task is performed. Also indicate if soldiers performing this task are required to hold a specific certification and the name of the agency issuing the certification.

e. List references. List the publications providing information on the task. Each reference must include the publication's number, title, and date. This is a consolidated list of the references used when developing the tasks steps.

f. List related tasks. After the task steps have been listed, develop a consolidated list of the collective and individual tasks that are performed as part of the collective task being analyzed.

(1) An example is "Bypass an Enemy Position," which might be a related collective task for the task "Execute Actions on Contact." In other words, as part of actions on contact, a unit may decide to bypass. Yet, in another tactical situation or a lower echelon, "Bypass an Enemy Position" may be a task performed for its own sake.

(2) An example of a related individual task for the task "Execute Actions on Contact" might be the in-

dividual task "Direct Actions on Contact at Co/Trp Level."

(3) The list should include the task title, task number, and the number of the task step within the task analysis that relates to the supporting task.

g. Develop task standards. The overall task standards state the ultimate outcome criteria for the task. These standards describe the minimum acceptable level of task performance to include accuracy, speed, and quantity that the unit element must demonstrate to ensure successful accomplishment of the collective task. Standards must be objective, observable, and measurable. They must relate to the task under study.

(1) There are three kinds of standards:

(a) Product standards describe the end-result of adequate task performance. For example, a product standard for crossing a river is to get to the other side. A unit has not crossed a river adequately unless it reaches the other side. Product standards may also specify that the task must be performed within a given time period. Using the conditions described above, a time standard might be: "Co/Tm reaches release point prior to the time stated in the operations order." Training developers should use product standards when the process it takes to perform the task is not important as long as the product (end result) is correct.

(b) Process standards describe the critical task elements necessary for adequate task performance. Process standard for crossing a river might be "Provide overwatch for crossing elements." This is a critical task step since unit elements are particularly vulnerable at crossing sites. When developing process standards, it is important to ensure that only critical task steps are included. It is easy to fall into the trap of inflating process standards by listing all task steps.

(c) Combination of both product and process standards.

(2) The training developer must ensure that the standards are measurable and objective. Standards such as "maintains momentum of attack" cannot be measured. Subjective standards like "as soon as possible" and "in a timely manner" are inadequate, because one evaluator's concept of "timeliness" may be very different from another evaluator's. Time should not be used as a part of the standard unless failure to meet the time has dire results in battle.

(3) Take the following steps to develop task standards:

(a) Review the condition statement to determine the parameters for the standard. The standard cannot address anything outside the parameters set by the condition statement.

(b) Review the next higher echelon's task that is similar to the task being analyzed to determine how it influences the task being analyzed. For example, the battalion movement annex which was developed during the battalion-level analysis may be a standard element

for the standard for the task "Prepare company for movement."

(c) Review the task steps. Task steps are the basis for task standard development. The task standard can only address what is stated in these elements. Ask the question, What is the ultimate outcome of the performance of these task steps? The answer is the basis of the task standard.

(d) Review the informational sources to determine if any standards are stated in these sources.

(e) Review the completed task standard to ensure that it states the ultimate criteria for the task, relates to the task steps, and is within the parameters set by the condition statement.

h. Describe MOPP 4 degradation. If MOPP 4 conditions degrade the performance of the task so that the task standard cannot be met, then describe the task performance degradation.

(1) Reference the Combined Arms in a Nuclear/Chemical Environment (CANE) Study on functioning in a chemical and nuclear environment for data on task performance degradation.

(2) If during the task analysis it becomes apparent that the task should be but cannot be performed in MOPP 4, that should be noted as a deficiency. At the end of the analysis project, all the deficiencies should be submitted to the proponent Threat Manager.

i. Develop performance measures. Identifying performance measures is normally a design function in preparing ARTEP products; however, in reality, the opportune time to identify the performance measures is following identification of the task steps. Performance measures are the behaviors, products, and characteristics that the scorer observes to determine if the soldier has performed a task correctly. Successful accomplishment of these measures results in meeting the task standard. The following steps will help determine performance measures:

(1) Review the task steps, skills, and knowledge to evaluate which are key. Performance measures are usually the major performance steps, skills, and knowledge necessary to perform the task.

(2) Select performance measures that are observable and measurable. Performance measures must support the standard.

(3) Write the performance measures to ensure that an evaluator could use them to determine if the task performer has in fact accomplished the task to the specified standard.

(4) Begin each performance measure with an action verb. For example, "Marks all errors in grammar, spelling, and format," not "the letter must be reviewed to see that it is correct."

(5) Ensure each performance measure concerns only one event.

j. Determine needed changes. Submit to the approving authority any changes to the critical task list identified while conducting a task analysis. Implement changes after receiving approval.

3-4. Review task analysis. As the task analysis is completed for each task, it should be reviewed by another SME and training developer. The SME is responsible for ensuring that the content of the analysis is consistent with current doctrine or projected doctrine revisions. The training developer is responsible for ensuring the task analysis is complete and in compliance with TRADOC policy and guidance (TRADOC Reg 350-7). All revisions to the analysis should be filed in the audit trail.

3-5. Revisions of the task analysis. Changes in material, organization, and doctrine will initiate periodic revisions of the analysis. Develop local guidelines to allow for the training developers, doctrine writers, and combat developers to propose changes.

3-6. Determine drill candidates. Review the collective task analysis to identify drill candidates. The training developer can apply drill selection criteria (decision flow chart at appendix H) to determine if a task or one of its steps lends itself to training as a drill.

3-7. Determine tasks for Mission Training Plan (MTP). Consider collective tasks not appropriate for drill development for inclusion in an MTP. If publication size restrictions preclude the inclusion of all of the remaining critical tasks in the MTP, consider developing a TSP to cover the other critical tasks. All of the tasks on the critical task list must be included in some training product.

3-8. Hand-off to individual analysis. If the entire collective and individual analysis process is conducted by the same group, no hand-off of material is required. If another group is responsible for the individual portion of the analysis process, then you must hand-off the critical collective task list, collective task analyses, and any task information developed for potential individual tasks. Coordination and sharing of the collective analysis documents throughout the process will greatly facilitate the hand-off process.

## Chapter 4 Job Analysis

4-1. General. Job analysis is the process of examining a specific job and identifying all the tasks performed by the jobholder in a TOE unit. Remember the term TOE is used throughout this pamphlet although the process is applicable to the analysis of units organized under a TDA structure.

a. Jobs are found within each skill level of an MOS or area of concentration (AOC). Some jobs have an additional skill identifier (ASI), skill identifier (SI), special qualification identifier (SQI), or language identification code (LIC) designated. Base job analysis for officers on the branch code (BC), functional area (FA), or AOC depending on the complexity of the BC/FA or AOC within it.

b. There are other jobs in the Army that do not necessarily have a specific identification code. Examples of these jobs are the training NCO, unit movement officer, or unit movement coordinator. Job analysis must form the foundation for this training as well. The terms "job" and "duty position" are used interchangeably.

c. Ideally, the training developer derives job analysis from a comprehensive analysis of the units where a particular job is performed. However, many CSS MOS and BC/FA/AOC not only have many jobs within them but are also found across many units, making it difficult to produce a comprehensive analysis for every unit. Some RC units have the same problem.

d. A lack of unit analyses does not prevent job

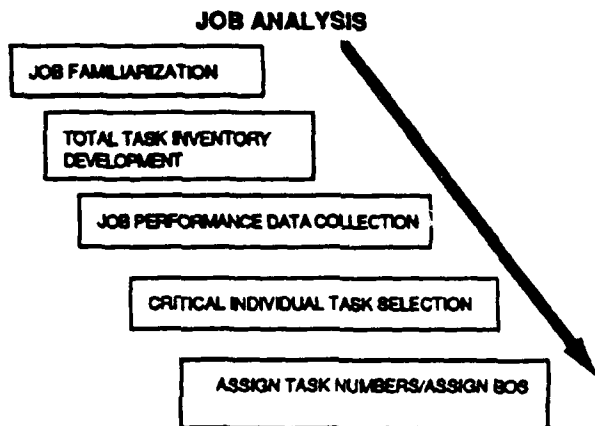


Figure 4-1. Job Analysis

analysis from occurring. The major components of job analysis are shown in figure 4-1.

#### 4-2. Requirement.

a. Job analysis is conducted on new and existing jobs in Active Component and RC TOE units.

(1) Conduct analysis whenever the following indicate that major changes have occurred in the structure or content of the tasks required of a particular job:

- (a) Mission and collective task analysis.
- (b) Logistic support analysis report (LSAR).
- (c) Other sources of data.

(2) Reasons to review and update a job analysis are

- (a) Changes in weapon systems or other military hardware.
- (b) Changes in the personnel or equipment requirements within an existing TOE.
- (c) Changes in threat or doctrine.
- (d) Publication of a new FM or TM, and the requirement to produce new training material.

b. The training developer should carefully review the materials available, determine the deficiencies, and

develop a plan specifically designed to meet the requirement.

4-3. Job familiarization. The purpose of this phase is to conduct a detailed search of all available resources to include locating and studying literature, viewing equipment, and interviewing knowledgeable people.

a. The training developer should identify and gather all available information concerning the target population and the authorized duty positions for the job being analyzed. By carefully collecting material and data that guide, direct, or explain the activities of the job, the training developer can integrate the information to determine the tasks of the job.

b. The training developer must take the opportunity for early hands-on experience with new equipment and/or the opportunity to receive technical information from the designer/development contractor. This can be achieved through attending preproduction conferences and receiving preproduction technical literature, draft maintenance allocation charts (MACs), logistics and doctrine plans, projected special tool requirements, logistics support analysis (LSA), and LSAR data.

c. Maintain a list of the information sources that are used to analyze the job in the audit trail. Although the training developer initiates the list in the job familiarization phase, references are added throughout the analysis. It will assist other users if notes are made next to each source on the list as to the type of information the source provided and whether it was useful in the analysis. See appendix B for a list of sources where the training developer may obtain specific types of information needed during the analysis.

4-4. Individual task identification. The purpose of this phase is to identify all the individual tasks required of the jobs being analyzed. The list of tasks is referred to as the total task inventory. Expect to go through several reviews, refinement, and modification of the list before coming up with a final total task inventory. The training developer can select from various analysis methods when identifying tasks, but all tasks must be stated in the standard task title format.

a. Identify the duty positions. First, the training developer must identify the authorized duty positions and the units where the jobs are performed plus any other duty positions you discovered during job familiarization. Duty positions are assigned areas of work requiring the full-time services of one individual. Authorized duty positions can be found by examining the AR 611-series and the TOE containing the job. Refer to the AR 611-series for general information about an MOS and derive specific duty positions from the TOE. Find other duty positions by looking at units where the job being analysis is located.

b. Identify job tasks. Once the specific duty positions have been identified, the training developer can start to identify the tasks required to be performed to accomplish the job. When you develop this task inventory, it may make it easy to identify the relationships between the tasks by organizing the tasks in general category areas (e.g., communications, gunnery, supervision, or maintenance). As the inventory is developed, list next to each



task the specific source from which the task came. A task is defined as an individual task if it—

- (1) Has identifiable start and stop points.
- (2) Is directly observable or results in an observable product or accomplishment.
- (3) Is measurable.
- (4) Is performed for its own sake.
- (5) Is a highly specific action.
- (6) Is performed in relatively short periods of time.

c. Develop task titles. Individual tasks are listed on the final total task inventory using the same standard task title format used for collective tasks. Preparing the task title in a standard format ensures that the intended action is clearly described and the action is specific and measurable.

(1) The wording of the title consists of an action verb, an object, and possible qualifiers. For example "Plan (action verb) for the collection of combat intelligence (object) to support tactical operations at company level (qualifier)" is a task title containing all three parts. The task title will not include conditions or standards. See appendix C for the standard verb list.

(2) Tasks must be written in the language of the jobholder. The tasks also should reflect the job in wartime conditions. An example is "Engage targets with x" not "Qualify with x." Actual task titles are refined after all the tasks have been identified.

d. Select analysis methods. A combination of the following analysis methods and techniques can be used to identify the job tasks and compile a total task inventory. Use more than one method since each method has strengths and weaknesses.

(1) Content analysis. Content analysis is a detailed review of the literature. The references compiled in the collective analysis and job familiarization phase provide an excellent starting point for task identification. The types of materials that are most informative depend on the nature of the job. For example, if the jobholder is a maintenance technician or mechanic, the maintenance allocation charts in the TMs identify many job tasks. Content analysis is the least valid method and should be used in conjunction with the other two techniques.

(2) Interview analysis. Interview personnel currently serving in (or have recently served in) the duty position. Conduct this interview face-to-face and/or through a survey. The cost of conducting a large-scale survey, especially in terms of preparation and administration time is resource intensive.

(a) Although on-site interviews are the preferred method, interview analysis is typically conducted using local assets due to budget and time constraints. Use of local assets normally will not provide sufficient coverage.

(b) The training developer must review the literature and become familiar with the functional relationships to properly structure the questions to be asked in either interviews or questionnaires.

(c) Test out the questionnaires on small representative groups to ensure that respondents read what is intended. The officers and NCOs returning to the school from field units for advanced training provide an excellent resource for interview analysis.

(d) An additional source of information is the results of the CODAP reports provided by the AOSP. The Occupational Survey Division of USAPIC can provide task lists for most BC/FA/AOC and MOS.

(3) Observation analysis. Direct observation of personnel as they perform the job, combined with interviews, provides potentially the most useful source of task information. The training developer must have a thorough understanding of the literature and functional relationships within the unit to correctly interpret and describe the behaviors observed. This method requires a high investment of time and money to observe numerous jobholders performing tasks in all duty positions.

(4) Blueprint of the Battlefield technique. See para 2-5d(1).

(a) The accomplishment of almost any job will require the interaction of several if not all of the BOS regardless of the MOS or BC/FA/AOC.

(b) Review each job against each of the the BOSs. The question to repeatedly ask is, "Is this individual required to do anything related to this BOS to support the accomplishment of the job being analyzed?"

(c) The use of the term "generic task" as used by combat developers in the Blueprint should not be confused with the "units of work" that training developers identify as tasks. TRADOC Pam 11-9 gives a complete explanation of the structure of the Blueprint. See appendix D for an example of how the Blueprint of the Battlefield was used to identify tasks.

f. Nonproponent tasks. As with the nonproponent collective tasks performed by echelons within your proponent organizations, review related individual task lists for nonproponent tasks performed by the jobholder. Early identification of task proponentcy will allow all proponents sufficient lead time for planning the development of task data required by other TRADOC schools or agencies. Make a formal request for nonproponent task data after approval of the critical task list. If the proponent agency provides existing analysis material for the given MOS/FA/BC, you must review that material for integration into your analysis. Detailed coordination between schools is critical to ensure standardization in the analysis process. See appendix E for more information on the task management of nonproponent shared and common tasks.

g. Procedures for identifying tasks. The basics as to what a task is and the methods available for identifying tasks were covered above. The specific steps to identify individual tasks are summarized in figure 4-2.

## INDIVIDUAL TASK IDENTIFICATION

1. Select the job.
2. Select a method or combination of methods to analyze the job to determine the tasks required for job accomplishment.
3. Review the task lists of similar duty positions prepared for other MOS and BC/FA/AOC, when they exist.
4. Review the potential individual tasks, provided by the collective analysis process.
5. Review the task analysis provided by the collective analysis process. Pay particular attention to the related individual tasks and the skills and knowledge for possible individual tasks.
6. Determine the start and stop points for the task. This will help you determine the next possible task.
7. Record the task title as a proposed task and the reference from which it came.
8. Record the remaining tasks for this job following the preceding steps.
9. Review all tasks for each duty position to ensure that no task gaps exist and task overlap/redundancy is minimal.
10. Organize the inventory in some manner that makes it easy to identify the relationships between tasks. For example, this can be done with duty areas, specific equipment headings, or BOSs. Commander, USAPIC, can provide CODAP reports based on tasks performance that can assist grouping of tasks into clusters.
11. Record the final task title and review the approved verb list (appendix C) to determine if the usage of the verb agrees with the definition.

### Figure 4-2. Identify Individual Tasks

4-5. **Collect job performance data.** During this step, the training developer will either provide the total task inventory to USAPIC, so they can conduct the occupational survey, or take steps to obtain occupational data using a locally produced survey. Job performance data is used in the critical task selection process.

a. In the second or third quarter of each fiscal year Commander, USAPIC, solicits the personnel proponents for AOSP survey candidates in the next fiscal year. If your school intends to have USAPIC assist in conducting a survey, it is essential that your needs are included in the response to that solicitation. AR 611-3 covers the AOSP; training developers must also follow the provisions of that regulation if the school intends to conduct its own survey. All surveys cutting across two or more major commands (MACOMs) require CG, USAPIC, approval. The type of information available from AOSP is discussed in appendix F.

b. After AOSP surveys have been completed, computer reports based on the CODAP are generated. If USAPIC conducts a survey for you, they are available to assist in the interpretation of the data and to serve in an advisory capacity to the Task Selection Board. If this

type support is required, coordinate directly with your proponent's Armywide Occupational Survey Program point of contact for guidance.

4-6. **Individual critical task selection.** The last step of the job analysis is to select critical individual tasks. A critical task is a task determined to be essential to war-time mission, duty accomplishment, or survivability. The training base and/or unit will train all critical individual tasks. The careful selection of those individual tasks that require structured training is an important part of managing the resources available for developing training. (See para 2-6.)

4-7. **Task propensity.** See paragraph 2-7.

4-8. **Task identifiers.** Task numbers for individual tasks selected for training will use the system required by TRADOC Reg 351-11 and TRADOC Reg 351-12.

4-9. **Assign BOS and primary function.** See paragraph 2-9.

4-10. **Job analysis summation.** The job analysis identifies all the tasks involved in performing a particular job, collects job performance data on those tasks, and culminates in the identification of the critical tasks for that job. Training developers will then analyze each task on the critical task list.

## Chapter 5

### Individual Task Analysis

5-1. **General.** This analysis process identifies all the actions and decisions required to perform each critical individual task. The task analysis is the "core" of analysis. The process combines the information already derived about the task with detailed task performance specifications such as conditions, standards, references, safety and environment factors/hazards, task steps, skills/knowledge, and performance measures. Training developers use the information produced to design and develop training and produce STPs. The basic task analysis process is the same for both collective and individual task analysis. Specific paragraph reference is used to identify information that is identical to information in chapter 3.

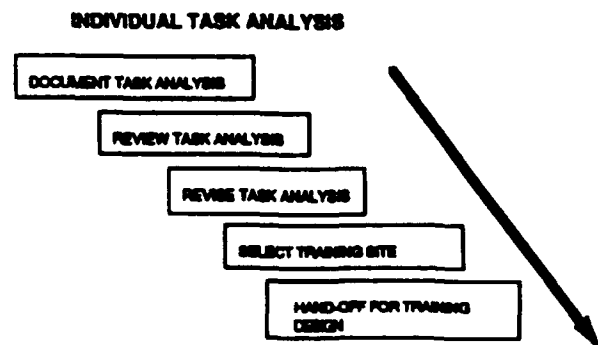


Figure 5-1. Individual Task Analysis

**5-2. Requirement.** See paragraph 3-2.

**5-3. Task analysis process.** The individual task analysis process identifies all the actions and decisions required to perform the individual task. The basic resource materials for individual task analysis are the documents generated during mission analysis, collective task analysis, and job analysis. See appendix B for a list of sources where the training developer may obtain specific types of information needed during analysis. Take the following steps to analyze a task:

a. Choose a task to analyze. First determine if the individual task you select is common, shared, or job specific.

(1) If the individual task is job specific, the analysis is a relatively straight forward process.

(2) If the task is common or shared, you must consider if the individuals perform the task in exactly the same way.

(a) Minor differences, if any, should be addressed with the task steps of the task analysis.

(b) If there are major differences, you need to reevaluate whether there should be more than one task to represent the action taken by the different jobholders.

b. Develop condition statement. See paragraph 3-3b.

(1) Cue. For individual task analysis, the starting point is usually an action or event taken by an individual or signal from a piece of equipment, such as a noted deficiency or alarm. A task may have more than one cue. For a wheel vehicle mechanic, a flat tire on a vehicle is a cue that should result in the jobholder changing or repairing the tire. Certain cues not only signal a medical corpsman to begin administering first aid to an injured person but also determine the order of first aid procedures. Again, cues are important because they aid in the design of learning activities during the design process. The following steps will help determine starting points for individual tasks:

(a) Review the other duty positions within the job to determine what actions are being performed by other individuals in this situation. These actions may be possible cues.

(b) Review the threat information and other sources previously stated.

(2) Descriptive information. See paragraph 3-3b(2). The following steps will help determine the descriptive information for individual tasks:

(a) Review the duty positions, threat information, and other sources to produce this portion of the statement.

(b) Review the environmental factors. See paragraph 3-3b(2)(b).

(c) Prepare specific and detailed situations for the statement. See paragraph 3-3b(2)(c).

(d) Review the condition statements of similar tasks under similar jobs. If these are totally applicable, they can be used for your tasks. If not, use those portions that are applicable for your tasks. Include

malfunctions, partial failure, and/or failure information if applicable.

(3) As you develop the condition statement, determine whether the individual is expected to perform the task in conditions requiring MOPP 4.

(4) Review the completed condition statement. Does this statement provide all the information and the setting you need to develop the task steps?

c. Develop task steps. The development of task steps for a specific task is the process of identifying the particular components of the task. A task step is an action or unit of work that is required to fully perform an individual task. These task steps should be in the same order as they would occur during wartime. Task steps focus upon process, procedure, and results. Each task step should be specific and detailed and contain only one event. The following process can be followed to help develop task steps:

(1) Review the condition statement to maintain a clear understanding of the parameters of the task.

(2) Review the informational sources to determine how the task is performed.

(3) Sequence all task steps as they should be performed during wartime.

(4) For each task step, identify any skills (physical or mental) and knowledge (mental) components needed by the individual to enable task step accomplishment. For example, in order to "Report enemy contact" (a step) as part of "Conduct actions on contact" (a task), the individual must follow radio procedures (knowledge). The skills and knowledge are tied to the step to which they apply.

(a) See paragraph 3-3c(5)(a) and (b).

(b) The identification of the physical requirements (skill, speed, strength, stamina, suppleness) is important information so that the training can be designed to prepare the individual to perform the task under the conditions and frequency that they will be expected to perform in wartime.

(5) Identify whether task step can be performed in MOPP 4. See paragraph 3-3c(6).

(6) Identify the reference for each task step. See paragraph 3-3c(7).

(7) Ensure each step has only one activity. See paragraph 3-3c(8).

(8) Review each procedural task step. See paragraph 3-3c(9).

(9) Review the steps that require coordination. See paragraph 3-3c(10).

(10) Review the total list of task steps to make certain no performance gaps exist between the steps.

d. Identify job hazards/safety/environment factors. See paragraph 3-3d.

e. List references. See paragraph 3-3e.

f. List end items. List end item(s) required for task performance once the task performance steps have been completed. End items are the equipment specified in the TOE.

g. List related tasks. Review the collective analysis material and determine the collective task(s) the individual task being analyzed supports. Develop a consolidated list of those collective task numbers and titles.

h. Develop task standard. See paragraph 3-3g.

(1) There are three kinds of standards. Below are examples of product and process standards for individual tasks:

(a) Product standards describe the end result of adequate task performance. For example, a product standard for "Bore-sight Launch Rails" is "the gunner's sight reticle lines and alignment set crosshairs are aligned within + or - 2 mils of a target at a minimum distance of 1000 meters." Training developers should use product standards when the process it takes to perform the task is not important as long as the product (end result) is correct.

(b) Process standards describe acceptable task performance in terms of sequence and/or completeness. The process standard for "Clear an Object from the Throat of a Conscious Casualty" is "attempt to clear the object from the casualty's throat performing the steps in sequence. Continue giving abdominal or chest thrusts until the casualty can talk and breath normally, you are relieved by a qualified person, or the casualty becomes unconscious requiring mouth to mouth resuscitation." When developing process standards, it is important to ensure that only critical task steps are included. It is easy to fall into the trap of inflating process standards by listing all task steps. There are occasions when specific references to a table, schematic, or portion of a TM would be appropriate as a process standard, e.g., "IAW TM XX-X." This should only be used if the TM states what to do and how well to do it and must be followed with no exceptions.

(c) Combination of both product and process standards.

(2) Standards are measurable and objective. See paragraph 3-3g(2).

(3) Take the following steps to develop task standards:

(a) Review the condition statement to determine the parameters for the standard. The standard cannot address anything outside the parameters set by the condition statement.

(b) Review the task steps. These are the bases for developing task standards. The task standard can only address what is stated in the steps. Ask the question, What is the ultimate outcome of the performance of these task steps? The answer is the basis of the task standard.

(c) Review the informational sources to determine if any standards are stated in these sources.

(d) Review the completed task standard to ensure that it states the ultimate criteria for the task, relates to the task steps, and is within the parameters set by the condition statement.

i. Describe MOPP 4 degradation. See paragraph 3-3h.

j. Develop performance measures. Identifying performance measures is normally a design function in preparing STPs; however, in reality, the opportune time to identify the performance measures is following identification of the task steps. Performance measures are the behaviors, products, and characteristics that the scorer observes to determine if the soldier has performed a task correctly. Successful accomplishment of these measures results in meeting the task standard. See paragraphs 3-3i(1)-(5).

k. Determine needed changes. See paragraph 3-3j.

5-4. Review task analysis. See paragraph 3-4.

5-5. Revisions of the task analysis. See paragraph 3-5.

5-6. Task training site selection. Site selection is the process of selecting the initial instructional setting for a task. The objective of this process is to choose the most effective and resource efficient training location for each task. The training developer must identify where every task selected for training will be trained. This training development decision requires extensive management input. It is an evolutionary process that begins with a suggestion from the training developer conducting analysis, progresses to a Site Selection Board that recommends a training site, and ends with the training developer conducting design refining and selecting the actual training site.

a. Site selection for training involving new materiel is proposed early in the CBRS process to support the resourcing for institutional and unit training products. An example of this would be input to the Systems Training Plan (STRAP) and the Individual Training Plan (ITP).

b. The first formal recommendation of where a task should be trained is made upon completion of task analysis and finalized during training design and development.

c. The military budget often forces more training to be done in units and less in institutions. Budget constraints include shortages in sets of operational equipment, authorizations for training personnel, availability of suitable realistic environment, and dollars for support of training time. Limitations in resources often result in higher skill level technical tasks being taught through on-the-job training or extension training materials. Almost all collective training is done in units because of the resources required. The following training sites should be given consideration when making the training site decision:

(1) Resident (includes RC additional duty training (ADT)).

(2) Mobilization.

(3) Unit only.

- (4) RC—annual training (AT).
- (5) RC—inactive duty training (IDT).
- (6) Nonresident extension training.

d. Site selection is a subjective group decision driven by several factors. The needs of the Army as derived from the Branch Planning Analysis provide the most critical considerations. The projection of a short mobilization period requires that soldiers leave the schools "ready to go to war." Training managers must address the potential implications of mobilization and how it would affect the training base in terms of tasks to be trained, amount of additional time required, and other resource implications.

The following factors should be considered when making the site selection decision:

- (1) Percentage of soldiers performing the task.
- (2) Availability of equipment or simulators.
- (3) Resource limitations of institution.
- (4) Time between training and utilization.
- (5) Task complexity.
- (6) Frequency of performance.

e. The Site-Selection Board is suggested but not a requirement of the site selection process. A training site selection board should be conducted separately from the critical task selection board.

(1) This board reviews the critical task list, the task analysis data, the training developer's initial site recommendation, and task performance data; then they recommend the training site(s) for each critical task. The training emphasis data will be of special value when making this decision.

(2) The recommended training sites for the critical tasks will be forwarded to the approving authority for approval.

(3) Because of the similarity of the Task Selection for Training Board and the Site Selection Board, the guidelines suggested in appendix G regarding composition, size, and chairmanship should apply.

**5-7. Task analysis summation.** At the completion of the task analysis of the critical individual tasks the training developers should pass off all the information to the training developers responsible for training design and design of the STPs.

## Appendix A

### Project Management Plan

**A-1. General.** This appendix describes sample components of a Project Management Plan. If you have never completed a management plan, it would be helpful to ask for sample plans which others have identified as good plans. They can serve as illustrations of good formats to use and of the amount and quality of detail which is acceptable for your school. Much of the information for the plan can be found in the overall Training Development Plan.

**A-2. Project Management plan.** Suggested components of a basic Project Management Plan are at figure A-1.

PLAN COMPONENT	DESCRIPTION
Purpose/implications of the project	Describe the purpose of the project. Cite all directives that are the basis for this project. Describe project outcomes on existing policies, procedures, or material in the Army.
Resource requirements	Describe anticipated resources required to complete the project: Qualifications of personnel Mandays Equipment Budget (TDY)
Data sources	Describe where you expect to get information to produce each product, including documents to be reviewed and personnel who will be interviewed.
Coordination responsibilities	Identify the service schools, integrating centers, MACOM, active and reserve TOE/TDA organizations, and other agencies that coordination will be made with during each phase of the project. Provide a brief description of the purpose of the coordination.
Products	List the products of the completed project.
Milestones	State the starting and estimated completion dates for each step in the project.

Figure A-1. Components of project management plan.

## Appendix B Informational Sources

This appendix lists sample sources where you may obtain specific types of information you could use during your analysis.

<u>TYPE OF INFORMATION</u>	<u>WHERE TO LOOK</u>
Unit missions and duty positions	TOEs or TDAs Battlefield Development Plan (BDP) Branch Planning Analysis Systems Developments Manpower and Personnel Integration (MANPRINT) STPAP Previous analysis data AR 611-series MACs ITP AOSP Interviews with SMEs Common task products Training Performance Data Center (TPDC) SOPs
Doctrine, organizational, and equipment information	O&O plans BDP TOEs or TDAs Army Modernization Memorandum Issue Papers Basis-of-issue plan (BOIP) Qualitative and Quantitative Personnel Requirements Information (QQRPI) LSAR Integrated Logistics Support Plan (ILSP) FMs for unit FMs for parent unit FMs for nonproponent function FMs for supporting and supported unit TMs Training bulletins Center for Army Lessons Learned (CALL) documents Capstone doctrine Combat development projections Systems developments SOPs After-action reports

Unit and job environment

TOE or TDA  
FMs  
Observation of tasks' conditions through visits to units  
Interviews with incumbents and their supervisors  
Interviews with SMEs and upper level incumbents  
Risk assessments  
Nuclear, biological, chemical studies

Threat assessment

Threat studies and analysis  
Information from Threat Manager (threat information must be tailored to the type unit, specific echelon, or job)  
CALL documents

## Appendix C Verb List

C-1. Figure C-1 is a partial list of verbs and definitions for use in the task titles. Individual schools may have branch-unique terminology in addition to this list. School commandants must submit any additions to this list to include branch-unique verbs and definitions to Commander, TRADOC, ATTN: ATTG-CD, Fort Monroe, VA 23551-5000.

Achieve	To attain a desired end
Adjust	To bring parts or instruments into at least a minimum acceptable relative position or setting
Advise	To counsel and recommend
Alert	To make aware of
Align	To place parts in the proper position in relation to one another
Approve	To give official sanction
Assault	Close-combat phase of an attack; see also FM 101-5-1
Assemble	To fit the parts of an item together
Assess	1. To determine importance of 2. To fix the amount of
Breach	1. To break through 2. Secure passage through
Brief	To give essential information to
Bypass	Maneuver around an obstacle, position, or enemy force to maintain momentum of advance

Calibrate	To determine and cause corrections or adjustments to be made	Disassemble	To take apart
Close	To move so there is no way to move, pass, or progress through	Disengage	To release or break contact from something that engages (as a gear or enemy)
Collect	1. To bring together in a group 2. To gather 3. To assemble	Dismantle	To take apart
Complete	To bring to an end	Dismount	To get/take off
Conduct	1. To direct or take part in the operation or management of 2. To guide 3. To lead from a position of command 4. To direct the performance of 5. To act as leader or director	Displace	To leave one position and take another
Confirm	To verify	Disseminate	To distribute or disperse to more than one
Connect	1. To join 2. Fasten together	Distribute	To deliver
Consolidate	1. To join together 2. Organize	Effect	To cause the desired result or outcome
Construct	To build	Enforce	To compel observance or obedience
Control	1. To exercise restraint or influence over 2. To regulate 3. To direct	Engage	1. To enmesh 2. To interlace or interlock 3. To occupy 4. To engross 5. To attack 6. To hire
Coordinate	To bring into a common action or effort	Ensure	1. To make sure or certain 2. To guarantee
Cross	To pass	Enter	To come in
Defend	To ward off actual or threatened action	Emplace	To fix in a prepared position
Deploy	To place in position	Employ	To make use of
Designate	To choose	Establish	1. To bring into existence 2. To introduce as a permanent entity and/or procedure 3. To authenticate 4. To stabilize 5. To institute
Detect	To discover	Evacuate	To move from an area
Determine	1. To come to a decision 2. To investigate 3. To act as leader or director 4. To find out exactly 5. Fix precisely	Evade	Avoid
Develop	To make clear in detail	Execute	To put into effect
Direct	1. To take charge with authority 2. To control 3. To manage 4. To regulate 5. To give commands 6. To guide 7. To teach or instruct 8. To address 9. To aim	Extract	To remove
Disconnect	To sever the connection of or between	Fire	To discharge weapons
		Format	To produce in a specified form or style
		Fuel	To provide with fuel
		Harden	To protect
		Identify	1. To ascertain the origin of 2. To ascertain nature of 3. To ascertain definitive characteristics of
		Implement	To place into effect
		Inform	To make known
		Input	To enter
		Install	To put in an indicated place, conditions, or status
		Integrate	To unite
		Issue	To give out

<b>Lead</b>	To go at the head	<b>Produce</b>	To develop or create
<b>Locate</b>	1. To determine the position of 2. Set the position of	<b>React</b>	To respond
<b>Maintain</b>	1. To preserve or fix 2. To keep in good repair	<b>Reach</b>	To arrive at
<b>Move</b>	1. To proceed in a direction 2. To change the place or position of	<b>Receive</b>	To acquire
<b>Notify</b>	To point out	<b>Recommend</b>	To counsel and advise that something be done
<b>Observe</b>	To watch carefully	<b>Reconnoiter</b>	To obtain information by visual observation, or other detection methods
<b>Obtain</b>	1. To gain use of 2. To get	<b>Record</b>	1. To set down as a means of preserving knowledge 2. To document
<b>Occupy</b>	1. To reside 2. To control	<b>Recover</b>	To extract damaged or disabled equipment and move to a location for repair
<b>Operate</b>	To perform a function	<b>Redistribute</b>	To reallocate
<b>Organize</b>	To arrange by systematic planning and united support	<b>Release</b>	1. To let go 2. To set free from configuration or condition
<b>Orient</b>	To acquaint with the situation	<b>Relocate</b>	To change the place or position of
<b>Pack</b>	To gather	<b>Remove</b>	1. To eliminate 2. To kill 3. To dismiss 4. To displace 5. To take off
<b>Park</b>	To bring to a stop with the intent not to immediately use	<b>Reorganize</b>	To organize again
<b>Perform</b>	1. To do 2. To carry out an action or pattern of behavior	<b>Repair</b>	To restore to serviceable condition
<b>Plan</b>	1. To devise 2. To formulate a systematic scheme or program 3. To attain a goal	<b>Replace</b>	To substitute a new or workable item
<b>Police</b>	1. To make clean 2. To put in order	<b>Replenish</b>	To fill again
<b>Post</b>	To assign a position	<b>Report</b>	1. To present an account officially 2. To regularly carry back and repeat to another
<b>Prepare</b>	1. To put together 2. To combine elements and produce a product 3. To make ready 4. To make other persons or things ready	<b>Request</b>	1. To ask for (orally or written) 2. To ask (a person) to do something
<b>Protect</b>	1. To shield from damage 2. To shield from injury 3. To shield from destruction	<b>Resume</b>	To begin again
<b>Procure</b>	1. To bring about 2. To acquire or obtain	<b>Rotate</b>	To cause to turn about an axis or center
<b>Provide</b>	1. To supply 2. To make available	<b>Secure</b>	1. To make safe 2. To fix tightly 3. To make immobile
<b>Publish</b>	To produce for distribution	<b>Select</b>	To choose from among others to meet specific standards or criteria
<b>Position</b>	1. To locate 2. To place	<b>Send</b>	To dispatch
<b>Process</b>	To enter into a series of activities	<b>Strike</b>	1. To disassemble 2. Attack
		<b>Supervise</b>	1. To oversee 2. To critically watch and direct in the activities of subordinates course of action
		<b>Support</b>	To assist or help
		<b>Store</b>	1. To stock



	2. To deposit	Treat	To care for medically
Sweep	To clear	Troubleshoot	equipment, system, or operation
Task	To assign responsibility	Validate	To substantiate accuracy by comparison or investigation
Test	1. To examine to prove the value	Verify	To establish the accuracy or truth of
	2. Ascertain the nature of something		
Transmit	To send over communications net		

Figure C-1. Verb list

C-2. The action words or verbs at figure C-2 should be used with care. They are often a procedural step in performance of a true task. Asking why you would perform the action usually identifies the true task. For example: An activity is usually analyzed to accomplish some task. The task "Analyze jobs" really means "Determine all tasks involved in job performance."

Administer	1. To manage
	2. To conduct
	3. To direct
Analyze	1. To separate into parts so as to find out their nature
	2. To examine carefully and in detail
Apply	1. To put on
	2. To use practically
	3. To concentrate
Assist	To give support
Check	To compare with source, original, or authority
Define	1. To determine the limits and nature of
	2. To state the meaning of
Demonstrate	1. To show by reasoning
	2. To show the operation or working of
	3. To explain by using examples, experiments, etc.
Evaluate	1. To find the value or amount of
	2. Determine the worth of
Inspect	To view closely in a critical appraisal
Monitor	1. To keep track of
	2. To watch
	3. To check on
Manage	1. To handle or direct with a degree of skill
	2. To exercise executive, administrative, and supervisory direction of
Name	1. To give a name
	2. To designate or mention by name
	3. To identify by the right name

4. To appoint Review
1. To look at
2. Study again
3. Reexamine

Figure C-2. Verbs to use with caution

C-3. The verbs at figure C-3 are words to avoid. They should not be used in task titles or terminal learning objectives.

Appreciate	
Become aware of	
Be familiar with	
Believe	
Clarify	
Consider	
*Describe	1. To represent
	2. Give an account of in words or by picture
*Discuss	To explain (a subject) in speech or writing Enjoy
*Explain	1. To make understandable
	2. To define: expound.
	3. To offer reason for or a cause of: justify.
*Identify	To associate with previously described item
Know	
*List	An item-by-item series of words or numbers, as the names of persons or things, written or printed one after the other.
Relate	
Summarize	
Understand Use	
Utilize	
*Indicates verbs that should only be used in enabling learning objectives.	

Figure C-3. Verbs to avoid

## Appendix D

### Blueprint of the Battlefield/Activity Techniques

**D-1. General.** This appendix will provide an example of how the Blueprint of the Battlefield is used to identify tasks and an example of a mission activities list. Before using the Blueprint of the Battlefield technique, be sure to review TRADOC Pam 11-9.

**D-2. Blueprint of the Battlefield technique.** Most schools are involved in training development for the tactical level of war. TRADOC Pam 11-9, appendix D, covers the BOSs for the tactical level of war.

a. Remember that you are using the Blueprint at this stage of the analysis to help you identify tasks. You are not assigning tasks to any particular subfunction or generic task. The point is to record all the tasks. It does not matter if you happen to think of a task that has nothing to do with the particular function you are reviewing.

b. The Blueprint is an aid to assist you in thinking. To describe the process, an example is provided using the maintenance platoon of a tank battalion/task force as the echelon. The mission is "Conduct Recovery Operations."

c. What you are doing is asking yourself what does this echelon do during this mission that would fall within the functions, subfunctions, and generic tasks of each BOS.

(1) Review the definition of the BOS and one primary function under that BOS. Then, one at a time, go through the subfunction(s) and associated generic tasks for that primary function asking yourself does this echelon do anything that falls within this description. When you finish with one function, start with the next primary function and repeat the process.

(2) Figure D-1 is what the thought process would be for the maintenance platoon during recovery operations. You will need appendix D from TRADOC Pam 11-9 to follow this example. The identified tasks will be presented in all caps.

The BOS is "Maneuver" and the primary function is "Move." You know that there is movement involved in recovery, so look at the first subfunction "Position/Reposition Forces." The maintenance platoon definitely involves moving from one point to another on the battlefield, so look next at subfunctions under "Position/Reposition Forces." "Prepare for movement" has several generic tasks that should cue you to specific tasks performed by the maintenance platoon. In this case, CONDUCT STAND TO is the task being performed by the platoon before moving out. Going to the next subfunction "Move on or under Surface" you could determine that the platoon will move while mounted and, therefore, will be utilizing formations and movement techniques (e.g. MOVE USING TRAVELLING, FORM A COLUMN, FORM A STAGGERED COLUMN). Going to the subfunction "Negotiate Terrain" you might identify tasks such as RECOVER A VEHICLE (SELF RECOVERY), MOVE ACROSS CONTAMINATED AREAS, TOW A DISABLED TRACK VEHICLE, or TOW A DISABLED

WHEELED VEHICLE. Looking at the next primary function "Engage Enemy" the following type tasks could come to mind: REACT TO A GROUND ATTACK, FORM A PLATOON COIL, and REACT TO INDIRECT FIRE.

Figure D-1. Blueprint technique

(3) You would continue in this manner until you have worked through all of the BOSs. Another technique you can apply as you go through the BOSs is the phase technique where you break the mission up into phases and address smaller pieces of the mission at a time. As you look at the subfunction, you ask yourself is there anything that the maintenance platoon does during the planning phase of recovery operations that falls within the description of "Prepare for Movement?"

d. You would follow the same procedure for identifying individual tasks for a job. Basically, what you are doing is asking yourself what does this individual do that would fall within the functions, subfunctions, and generic tasks of each BOS.

**D-3. Mission activity list technique.** The purpose of the mission activities technique is to develop a sequential list of all the activities that must take place to accomplish the mission. The activities may occur either within or outside of the unit. The steps for preparing a mission activities list are as follows:

a. Determine mission statement and unit being analyzed.

b. List all factors that influence the accomplishment of the mission. Examples of factors include threat, location, supply requesting procedures, and environment.

c. List the activities and identify the unit element that is effected by or participates in the activity.

d. List any information about the activities that will assist in the remainder of the analysis. Information that is useful is whether the activity has possible use in a condition statement or as a task or a task step.

## Appendix E

### Task Management

**E-1. General.** Task management provides standardized task-based training materials to support Army training. Task management involves identification of task proponents and their proponent responsibilities as well as the procedures required to accomplish stability for task-based training development.

**E-2. Identification of task proponents.** Determining the proper task proponent for a given task is essential for effective task management. Simply stated, the task proponent for any given task is the proponent for the doctrine on which that task is based.

a. The doctrinal proponent responsible for a particular designated area is also responsible for any related task analysis and development. The doctrinal proponent retains development responsibility regardless of which

MOS, BC, FA, AOC, or other job (associated with other proponents) may eventually perform the task. TRADOC Regulations 351-11 and 351-12 list TRADOC service schools/Army agencies and the major areas for which each is proponent. The training developers can use this list to determine the proponent for all tasks outside their doctrinal responsibility.

b. The doctrinal proponents are responsible for developing all material for tasks related to the listed designated areas. Proponents should advise Commander, U.S. Army Training Support Center (USATC), ATTN: ATIC-ITT, Fort Eustis, VA 23604-5166, of any needed changes, deletions, or additions to the proponentcy list.

c. If a school or agency is unable to match a task with a proponent by using this list, they should contact USATC for assistance. If schools/agencies disagree over a proponent assignment, they also should request assistance. Correct identification of the task proponent can ensure that both task doctrine and task training products originate from a single source.

**E-3. Task performance.** Tasks are frequently labelled as common, shared, collective or individual specific. During its existence, a task may remain in its original category or may transfer to a different category as the responsibility for its performance changes. Regardless of the performance requirement, the responsibility for development never changes. The proponent for the task doctrine, rather than the proponent for any performing unit or MOS, BC, FA, AOC, or other job, is always responsible for task development.

a. **Common tasks.** An individual common task is an individual critical task that is performed by every soldier in a specific skill level regardless of MOS or branch. Enlisted common tasks are listed in the Soldier's Manual of Common Tasks. Officer common tasks are listed in the MQS I, MQS II, or MQS III Manual of Common Tasks. A collective common task is a collective critical task which applies to units in general, or to many units which have different proponent agencies.

b. **Shared tasks.** Shared tasks, as discussed in this appendix, are limited to those individual tasks performed by one or more nonproponent MOS, BC, FA, AOC, or other job but not all. Shared tasks are also used within proponent schools. For example, the Infantry School may develop a critical task that infantry soldiers perform to accomplish their unit mission. The Chemical, Field Artillery, and Armor Schools may find that analyses for their proponent jobs identify the same task as a performance requirement. Although the Infantry School is the doctrinal proponent for the task, Chemical, Field Artillery, and Armor Schools would "share" the task. The Infantry School would be responsible for the development of doctrine and training materials to support that task and would share that task information with the other schools which have identified the same performance requirement.

(1) It is possible that one school would request a task which the doctrinal proponent has not developed because that particular task performance is not critical for the task proponent's own MOS, BC, FA, AOC, or other job. For example, the Chemical School may have a critical

task which addresses a certain NBC-related performance requirement. Another school may find that it requires an NBC-related performance that is actually a portion of the existing Chemical School task. The Chemical School analysis determines that chemical MOS/BCs perform that task as written, while the other school's analysis identifies a more limited performance requirement. In this situation, Chemical School would develop a new "shared" task which describes the specific task, conditions, and standards as identified by the other school's analysis.

(2) The original Chemical School task would continue to exist as a Chemical School performance requirement. The new task would exist to meet the other school's performance requirement. The new task is shared with the requesting school although the proponent school does not include it on any critical task list for its own proponent jobs.

c. **Collective and individual specific tasks.** Collective and individual specific tasks are tasks that relate to the specific designated areas assigned to a doctrinal proponent and which have been identified, through analysis, as tasks for the doctrinal proponent's own units or MOS, BC, FA, AOC, or other jobs.

#### **E-4. Task information maintenance.**

a. Task proponents will maintain, as a minimum, up-to-date task analysis on all their collective and individual proponent tasks on the current critical task list. They will also maintain this information for all common and any shared tasks for which they are the doctrinal proponent.

b. Over a period of time, an existing task may require a performance modification. The task proponents must closely monitor such requirements to properly manage their critical task inventory and distribute the changes to all users.

**E-5. Procedures for obtaining shared task products.** The shared task management process begins with the identification of a training requirement. TRADOC schools/agencies identify their shared tasks training requirements by reviewing their approved critical task list.

#### **a. Initiating shared task requests.**

(1) User schools refer to the shared task catalog to determine the existence and availability of identified shared tasks. Although the catalog is the most recent published listing of available shared task products, the information may be dated. In addition to the catalog, the schools should request proponent schools to review and update task lists for task titles and numbers submitted by users.

(2) User schools submit requests for all shared tasks directly to the shared tasks proponent. The user schools must make the request at least 120 days before they need the shared task products. User schools should forward a copy of all written requests or conversations records to Commander, USATSC, ATTN: ATIC-ITT.

(3) A user school may review the catalog and determine that it does not list the required shared task. For

these unlisted shared tasks, users must forward to the task proponent a written request that includes the proposed task title, a brief narrative describing what the task seeks to accomplish, any unique environmental peculiarities, the required product delivery date, and the name and telephone number of the point of contact at the user school. The user school should furnish information copies of this request to Commander, USATSC, ATTN: ATIC-ITT. This information will enable the proponent to determine if any existing specific tasks might meet the user's needs. It is possible that a needed task does exist, but does not appear in the catalog.

(4) A new development requirement may surface when a user school requests an existing shared task, reviews it, and discovers that it does not meet its identified performance needs. If the conditions, steps, and standards of the existing task do not meet the user school's needs, the user school must request that the proponent develop a new shared task. In this situation, the user would initiate a new request.

**b. Processing shared task requests.**

(1) Upon receipt of a request for a shared task that appears in the catalog, the proponent will first verify that the existing shared task products are still current. The proponent will then forward the requested shared task products to the user schools and provide an information copy of the memorandum to Commander, USATSC, ATTN: ATIC-ITT.

(2) Upon receipt of a request for a task that is not listed in the catalog or a listed task for which a current task analysis does not already exist, the task proponent will give the user either written notification of the proponent's intent to develop or written authorization for the user to develop the required shared task materials. The task proponent should complete this notification and authorization within 10 days of receipt of the request. The task proponent must provide Commander, USATSC, ATTN: ATIC-ITT, with copies of this correspondence.

**E-6. Common and shared task development.**

a. Ideally, the task proponent should develop all tasks and supporting training products which are based on the doctrine they develop. To promote the best use of development resources, TRADOC schools and agencies should identify training requirements, to include identification of common and shared tasks, during the analysis phase.

b. When developing tasks identified or likely to be identified by other schools as common and shared tasks, proponents should consider that performing soldiers may hold MOSs ranging from Combat Arms to Combat Support or CSS. Sometimes, soldiers in all three categories may perform the shared task. To achieve the highest applicability to a wide range of performers, proponents should write shared task products suitable for use by any soldier.

c. Users may develop a shared task (but not common task) for which they are not the task proponent only as permitted by the task proponent. The proponent will al-

ways assign the task number to a common or shared task for which it is the doctrinal proponent regardless of who develops the task and related products. Additionally, the task proponent must review (for doctrine) and approve all user-developed common or shared task products. Users and task proponents will provide Commander, USATSC, ATTN: ATIC-ITT, with copies of all correspondence requesting or authorizing user development and submitting, approving, or disapproving user-developed products.

d. Task proponents may receive a request for shared tasks which their own job responsibilities perform. For example, a proponent may develop an MOS/BC-specific task for repairing a certain system. This MOS/BC-specific task may include several steps for operational testing of the newly repaired system. A nonproponent MOS/BC may be required to perform only an operational test and not a repair of the system. This situation would require that the task proponent develop a separate task with pertinent conditions and standards to meet the user's more limited performance needs. The task proponent's MOSs/BCs would continue to perform the original task, while the user's MOSs/BCs will perform the new shared task. The task proponent will add this new shared task to its total task inventory although the proponent's own MOSs/BCs do not perform it.

**E-7. Maintenance of shared and common task products.** Task proponents remain responsible for all tasks for which they are the doctrinal proponent regardless of which school or agency first identifies the requirement, performs it, or develops the materials to support it. Task proponents must ensure, through periodic review, that all task products reflect accurate, up-to-date doctrine. Additionally, task proponents must maintain an accurate list of which schools and agencies use the tasks for which they are responsible.

## Appendix F

### Task Selection Models

**F-1. General.** The following task selection models can be adapted to either collective or individual tasks. They are not listed in any order of preference. The training developer is not expected to use only one model since there is no single perfect way to select tasks.

**F-2. Difficulty, Importance, Frequency (DIF) Model.** One model used in the process of selecting tasks for training is the DIF Model which involves interviewing both supervisors and jobholders. Information is collected by means of interviews or surveys. Training developers can collect the information from a small sample (40 jobholders and 40 supervisors) and be confident that they have good data. The sample of jobholders and supervisors must come from a cross section of units to include Active, Reserve, and National Guard. The DIF Model is useful for identifying critical tasks for new missions, systems, and equipment.

a. The DIF Model involves asking three questions about each task on the inventory.

(1) Supervisors and workers are asked to determine the difficulty of the task in terms of learning and performing.

(2) Supervisors and workers are asked to determine the importance of the task to the unit mission or job.

(3) Supervisors and workers are asked to determine how frequently the task is performed.

b. Before the DIF Model can be applied, the training developer must understand the criteria used to define the terms. See figure F-1 for an explanation of the terms.

# DIF CRITERIA (DIFFICULTY)

IF THESE INDICATORS	AND JOB AID*	THEN THIS DIFFICULTY
• ability to perform gets better with practice but task does not get easier	NOT AVAILABLE	VERY DIFFICULT
• task has unique activities	-----	-----
• task has a lot of concurrent activities	-----	-----
• task requires considerable concentration effort	-----	-----
• task requires considerable decision making	-----	-----
• task requires outside assistance or expertise	AVAILABLE	MODERATELY DIFFICULT
• task requires constant practice or performance to maintain proficiency	-----	-----
• task requires some practice to maintain proficiency	NOT AVAILABLE	MODERATELY DIFFICULT
• gets easier with practice	-----	-----
• requires some concentrated effort	-----	-----
• task requires some decision making	AVAILABLE	NOT DIFFICULT
• OTHER THAN ABOVE (easy to perform, job aid not needed, very good job aid available, little concentration required, etc.)	-----	NOT DIFFICULT

\*JOB AID must be effective to be considered

# DIF CRITERIA (IMPORTANCE)

IF THESE INDICATORS	THEN THIS IMPORTANCE
• cost of task performance failure is very high	VERY IMPORTANT
• task failure may lead to failure of unit mission	VERY IMPORTANT
• poor performance will cause unacceptable high damage (money, manpower, time, etc.)	VERY IMPORTANT
• task failure will cripple other unit functions	-----
• task failure will hamper a unit's success in a function or mission	-----
• poor performance will cause damage and losses, but will not cripple the unit	MODERATELY IMPORTANT
• other unit functions are affected but not significantly	-----
• OTHER THAN ABOVE (no real harm done, missions not affected, unit functions still performed, etc.)	NOT IMPORTANT

# DIF CRITERIA (FREQUENCY)

## IF THESE INDICATORS

- done at least once every 2 weeks
- done at least once every 8 weeks
- done less frequently than once in 8 weeks

## THEN THIS FREQUENCY

- VERY FREQUENT
- MODERATELY FREQUENT
- NOT FREQUENT

Figure F-1. DIF Criteria

c. The training developer must also understand the differences among the training options listed below:

(1) Train. Jobholder or element must be able to demonstrate proficiency in performing the task at the speed required on the job.

(2) Overtrain. Jobholder or element must be trained to a high standard of retention. Accomplished by reinforcement training.

(3) No training. Formal training not required. Skills can be acquired on the job.

d. See figure F-2 for a sample of how the sequence of three questions used in the DIF model looks:

e. After the DIF analysis is complete, the tasks on the task inventory fall into three categories: Overtrain, Train, and No Training. Use the breakout of tasks to help make decisions on which tasks to select for training.

f. The training developer can make the three questions more complex by adding degrees of difficulty, importance, and frequency such as very, moderate, and not. If desired, use other criteria to supplement the results obtained from the DIF analysis.

g. The advantages, disadvantages, and major attributes for using the DIF Model to select critical tasks are—

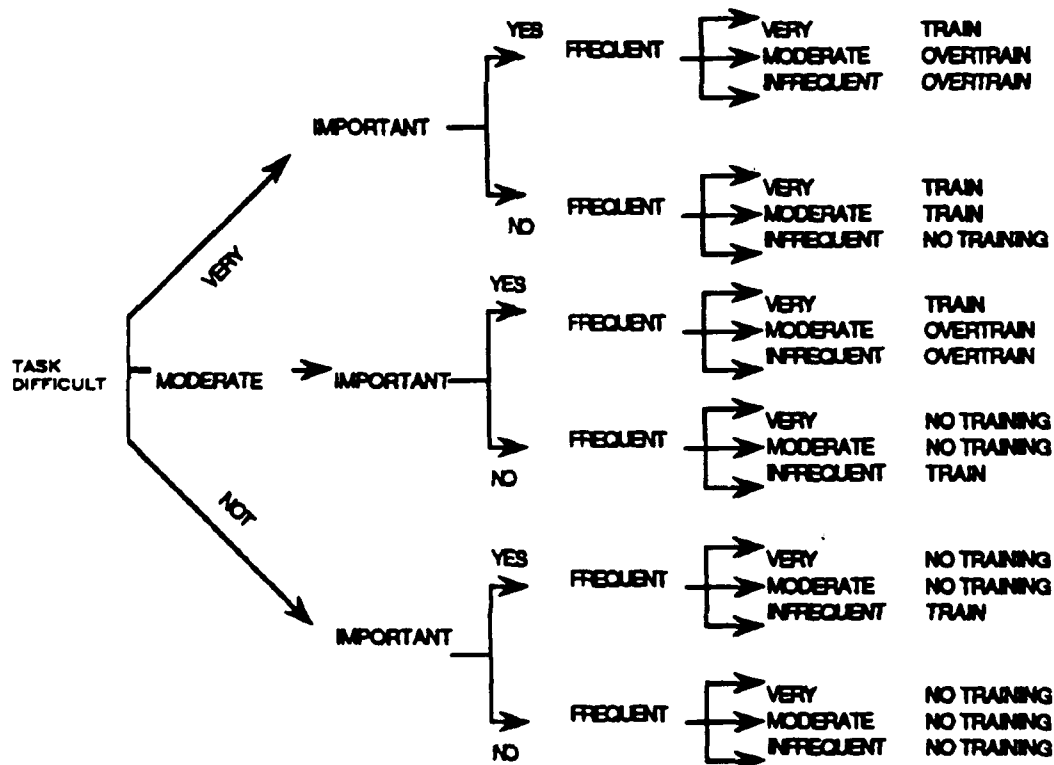


Figure F-2. DIF Model

(1) **Advantages.** There are three straight forward factors. There is ease of administration. A small sample (40) is acceptable. The analysis of the data is simple. It uses input from supervisors and incumbents. The degree of complexity is adjustable.

(2) **Disadvantages.** The model provides a crude instrument and provides only gross task selection recommendations.

(3) **Major attributes.** The simple rank ordering by category and little time required to implement are advantages.

**F-3. Probability of Task Criticality Model.** This model is based on data collected by the AOSP and shown on computer reports using CODAP. To assist in critical task selection, various types of data can be shown, together with an index of the probability of task criticality for each task.

a. The percent of jobholders performing each task will always be shown if using the Probability of Task Criticality Model. In addition, the following scales are available to collect jobholder and training factor information. The schools can request the scales they want used during the data collection process.

(1) **Absolute Frequency (AF) scale.** This scale is used to gather jobholder information on the average number of times a task is performed on the average within a year. It assumes a jobholder works 5 days a week, 48 weeks a year.

(2) **Part-of-Position (POP) scale.** This scale is used to gather jobholder information on the significance of the task. The POP scale, used primarily for warrant officer and commissioned officer personnel, relates to a variety of factors. This scale is useful with managerial jobs.

(3) **Task Learning Difficulty (LD) scale.** This scale is used to gather jobholder information on opinion of the supervisors and/or SMEs concerning the time required to learn to perform the task satisfactorily. Specifically, learning difficulty is based on the belief that the more time required, the higher the degree of learning difficulty.

(4) **Training Emphasis (TE) scale.** TE scale ratings, obtained from SMEs or supervisors, comprise the most useful single training factor for critical task selection. The TE scale is based on extensive research conducted by the Department of the Air Force and the Department of the Army and is recommended for all surveys. Using the TE scale involves collecting information from supervisors of jobholders. Information is not collected from the jobholders. Supervisors review the task inventory and indicate which tasks require systematic or structured training. For each task, they give a rating to reflect how much emphasis the task should be given in training for a specific element or skill level (enlisted or officer).

b. The probability of a task being critical is indicated by either high probability, average probability, and low probability. Rank ordering of the tasks is done first on high to low probability of task criticality. Then, within

each level of task criticality (high, average, and low), tasks are ordered from high to low based on average TE values.

(1) **High probability (HIGH PROB)** indicates the composite score exceeds at least one standard deviation above the mean.

(2) **Average probability (AVG PROB)** indicates the composite score falls within standard deviation of the mean.

(3) **Low probability (LOW PROB)** indicates the composite score exceeds at least one standard below the mean.

c. The advantages, disadvantages and major attributes for using the Probability of Task Criticality Model to select critical tasks are —

(1) **Advantages.** Various types of data can be shown, together with an index of the probability of task criticality for each task. The model has only a one factor rating scale, which combines several factors. It is well received by the field and a small sample (40) is acceptable.

(2) **Disadvantage.** The disadvantage of this model is the TE scale does not collect data from jobholders.

(3) **Major attributes.** Ease of administration and simple rank ordering.

**F-4. Multiple Factor Model.** Traditional models include the 8 and 4 factor models. Each school must request the factors they desire AOSP to collect if AOSP is conducting the survey.

a. Use a multiple factor model when tailoring a model to meet unique task selection problems. The key thing to remember is to select criteria that support making judgments on selection of tasks for training.

b. A multiple factor model collects information from jobholders and supervisors. The information can be collected directly by the training developer or from occupational surveys administered by the AOSP. If you select at least four factors once the information has been collected for each of the four factors for each task on the inventory, there will be a large data base to use for selecting tasks for training.

c. The ratings on the factors will depend upon the factor selected. Some can be answered with a yes or no, or selection of a grouping provided (e.g., 1-3 months, 4-6 months, more than a year), while others are rated using a scale from 1 (low) to 7 (high). Assign a weight or priority to each factor before the training developer sorts through the tasks.

d. Here are examples of criteria used to select tasks for training:

(1) **Combat critical tasks.** Is the task performed in combat and essential for survival?

(2) **Consequences of inadequate performance.** If task is performed incorrectly, what effect will it have?

(3) **Probability of deficient performance without prior training.** If not trained, how often is the task performed incorrectly?

- (4) Frequency of task performance. How often is task performed?
- (5) Learning difficulty. How hard is it to learn the task?
- (6) Task delay tolerance. After recognizing that the task must be done, what is an acceptable length of delay before beginning the task?
- (7) Relative time spent. How much time is spent doing the task?
- (8) Time between training and task performance. How much time passed after training and before performing the task for the first time?
- (9) Task similarity. Is the task similar to other tasks which have been recommended for training?
- (10) Task dependency. Is the task essential to perform another task?
- (11) Percent of personnel performing the task. What percentage of people you interviewed in the MOS or BC/FA/AOC performs the task?
- (12) Training emphasis. How much emphasis should the task be given in training?

a. The advantages, disadvantages, and major attribute for using a multiple factor model to select critical tasks are—

- (1) Advantages. The advantage of this model is that it provides a fairly comprehensive set of data for each task.
- (2) Disadvantages. Data collection and analysis are difficult. Weighing of factors is an awkward procedure. The application of the model is time consuming.
- (3) Attribute. The major attribute for this model is the extensive data base available.

#### Appendix G

##### Task Selection Board

**G-1. General.** A task selection board is convened to review the total task inventory and recommend tasks to the approving authority as critical tasks. Each school should have a general SOP developed for the conduct of task selection boards. Whether you are using the board organization described below or another format, the procedures need to be clearly delineated in an SOP.

**G-2. Board organization.** The board should be comprised of the following personnel:

a. Chairman. The chairman of the board should be well versed in the task selection process. It is preferred that he/she should have no vested interest in the outcome of the board. The chairman is a nonvoting member except as the tie breaker.

b. SMEs. SMEs are the only voting members on the board. The selection of specific SMEs for board members is often the most difficult and important part of task selection. Board members should be very carefully selected "experts" in the specific area under consideration. Actual successful field experience at the proper echelon or detailed knowledge of the requirements for that organizational structure during wartime are essen-

tial characteristics of an SME on the collective task board. The individual board should be comprised of SMEs representing a good cross section of the job being analyzed. The boards should also reflect RC participation. Persons with these qualifications may not always be available at the school and may need to be brought in from field units or test bed sites to ensure that the board decisions reflect the actual performance requirements. c. Training developers. The developers of the task inventory gain a tremendous amount of knowledge about the unit or job during the analysis. This knowledge is invaluable when making selection judgments. A training developer who helped develop the task inventory should serve as advisor to the board. The education specialist may be the training developer representative. The education specialist also serves as an advisor to the board. The training developer is a nonvoting member of the board.

d. DOES evaluator. DOES participation fulfills its role in accordance with the TRADOC Training and Quality Assurance Program. The DOES representative is a nonvoting member of the board.

e. DOTD project manager. The DOTD project manager serves as an advisor to the board. The project manager may be the education specialist, the training developer representative, or a third party. The project manager is a nonvoting member of the board.

f. Threat manager. Members of the threat community can also be considered as potential board members. They would be nonvoting members.

g. Combat developer. Members of the combat development community can also be considered as potential board members. They would be nonvoting members.

h. AOSP representative. If CODAP reports are being used to support task selection decisions, representative from AOSP could serve as advisors to the board. They would be nonvoting members.

#### G-3. Responsibilities.

a. The DOTD project manager manages the task selection board which involves—

- (1) Identifying board members that meet the SME qualifications.
- (2) Coordinating TDY if required.
- (3) Distributing to the board members the SOP detailing the boards duties, responsibilities, procedures, and selection model prior to convening the board.
- (4) Acquiring a meeting place and scheduling the board.
- (5) Making provisions for Threat briefing.
- (6) Preparing opening remarks and presenting analysis process, procedures, and results to the board.
- (7) Documenting board actions.
- (8) Preparing command approval memorandum.
- (9) Resolving any disapproval or comment by the approving authority.

b. The Task Selection Board reviews the task inventory and the task performance data. The board may add,



delete, reword, or combine tasks on the task inventory. Their final responsibility is to recommend to the approving authority tasks for approval as critical tasks.

c. The school commandant, or his designated representative, reviews and approves or disapproves the recommended critical task list. Approval of this list by the designated approving authority signifies completion of the selection process. Disapprovals or changes are submitted to the DOTD project manager for action.

G-4. Critical Task Selection Board SOP. Following are suggested components for a task selection SOP. Again, each school is encouraged to develop its own SOP to meet its specific needs and constraints.

a. Background and Purpose. This should be a brief general description of the unit or job and rationale for the analysis project.

b. Administrative details. This should include time, location expected duration of meeting, and agenda.

c. Current doctrine, threat, and mission guidance. The SOP should specify how this will be provided. A Threat briefing should be provided to the board but not documented as part of the proceedings. This avoids having to classify the entire proceedings.

d. Composition of board. Indicate who will be represented on the board.

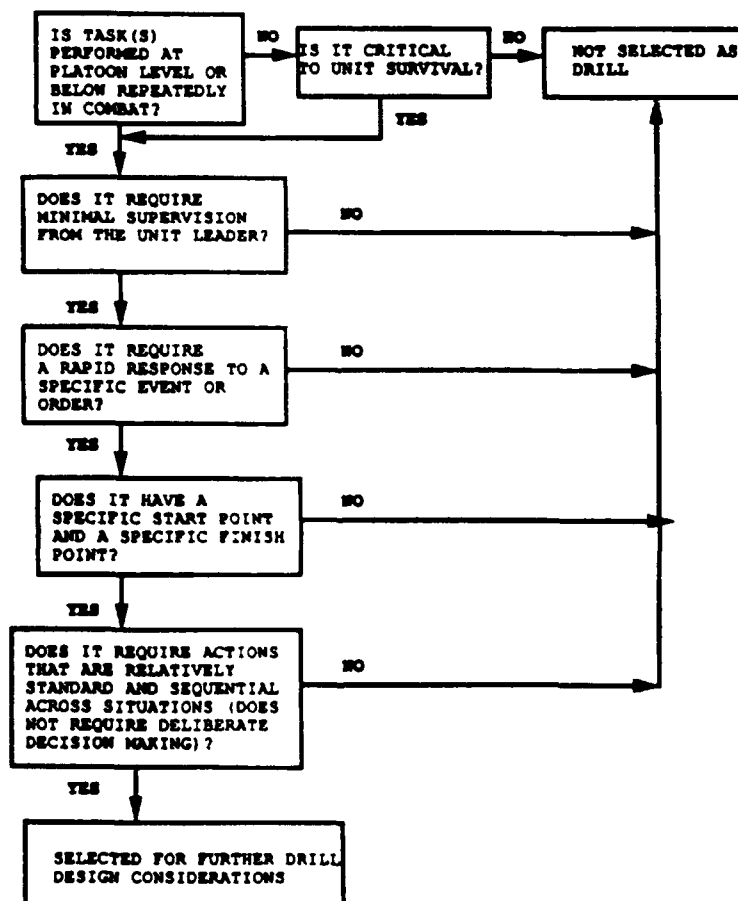
e. Conflict resolution and arbitration procedures. Describe the procedure and person to be used in resolving disagreements. Include a means for appeal and documenting dissent.

f. Selection model. Describe the models and data to be used in selecting tasks for training.

g. Special requirements. Include additional requirements, if any, to ensure understanding of the process used.

## Appendix H

### Drill Selection Flow Chart



## Glossary

### Abbreviations

ACR	armored cavalry regiment	HHT	headquarters and headquarters troop
Admin	administration	HIGH PROB	high probability
ADT	additional duty training	HOW Btry	howitzer battery
AF	absolute frequency	Hq	headquarters
AOC	area of concentration	Hvy	heavy
AOSP	Army Occupational Survey Program	LAW	in accordance with
AR	Army regulation	IDT	inactive duty training
ARTEP	Army Training and Evaluation Program	ILSP	Integrated Logistics Support Plan
ASI	additional skill identifier	ITP	Individual Training Plan
AT	annual training	LCSMM	Life Cycle Systems Management Model
AURS	Automated Unit Reference Sheet	LD	learning difficulty
AVG PROB	average probability	LIC	language identification code
BC	branch code	LOW PROB	low probability
BDP	Battlefield Development Plan	LSA	logistics support analysis
BHO	battle handover	LSAR	logistic support analysis report
Bn	battalion	MAC	maintenance allocation charts
BOIP	basis-of-issue plan	MACOM	major Army command
BOS	Battlefield Operating System	Maint	Maintenance
BP	battle position	MANPRINT	Manpower and Personnel Integration
C&C/C2	command and control	Med	medical
CALL	Center for Army Lessons Learned	METT-T	mission, enemy, terrain, troops, time
CANE	combined arms in a nuclear/chemical environment	MOPP	mission-oriented protective posture
CBRS	Concept Based Requirements System	Mort	mortar
CG	Commanding General	MOS	military occupational specialty
Co	company	MQS	military qualification skill
CODAP	Comprehensive Occupational Data Analysis Programs	MRO	material requisition order
Commo	communications	MS-DOS	Microsoft Disc Operating System
CSS	combat service support	MSB	maintenance support battalion
DIF	difficulty, importance, frequency	MTC	movement to contact
DISCOM	Division Support Command	MTP	Mission Training Plan
DMMC	Division Material Management Center	NBC	nuclear, biological, chemical
Evac	evacuation	O&O	operational and organizational
FA	functional area	OPORD	operations order
FDC	fire direction center	Pam	pamphlet
FIST	fire support team	Plt	platoon
FM	field manual	POP	part-of-position
FSB	forward support battalion	PPBES	Planning, Programming, Budgeting, and Execution System
HHC	headquarters and headquarters company	Prov	provide
		QQRPI	Qualitative and Quantitative Personnel Requirements Information
		RC	Reserve Component
		Recon	reconnaissance
		Recov	recovery
		Reg	regulation

RM	road march	TDY	temporary duty
S&S Co	supply and service company	TE	training emphasis
SAR	Safety Assessment Reports	TM	technical manual
SAT	systems approach to training	Tm	team
Sct	scout	TOC	tactical operations center
Sec	section	TOE	table of organization and equipment
Serv	service	TPDC	Training Performance Data Center
SI	skill identifier	TRADOC	U.S. Army Training and Doctrine Command
SME	subject matter expert	Trans	transportation
SOP	standing operating procedure	Trp	troop
Spt	support	TSP	training support packages
Sqdn	squadron	URS	Unit Reference Sheet
SQI	special qualification identifier	USAPIC	U.S. Army Personnel Integrating Command
SSRA	System Safety Risk Assessments	USATSC	U.S. Army Training Support Center
STP	soldier training publications		
STRAP	Systems Training Plan		
TDA	table of distribution and allowance		

FOR THE COMMANDER:

OFFICIAL:



DAVID G. FITZ-END  
Colonel, GS  
Deputy Chief of Staff for  
Information Management

JAMES W. VAN LOBEN SELS  
Major General, GS  
Chief of Staff  
Information Management

DISTRIBUTION:  
H1; H2; TRADOC Instl: D  
SI; S2; RC; CD

Copies furnished: H3; S3